

# **TPA PARCEL B10 – COKE OVEN AREA ANNUAL INTERIM MEASURES PROGRESS REPORT 2024**

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## EXECUTIVE SUMMARY

The Coke Oven Area (COA) Annual Interim Measures (IMs) Progress Report 2024 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 IMs and a review of groundwater sample testing data for monitoring wells associated with the respective remediation systems through 2024. 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 for the removal of volatile organic compounds (VOCs) from shallow zone groundwater in the Former Benzol Processing Area. The AS/SVE system operated at approximately 63% runtime during 2024 (largely due to a lightning strike in August 2024 followed by significant system downtime). Approximately 76 pounds of hydrocarbons were removed in 2024, compared to 68 pounds of hydrocarbons removed in 2023.

### CELL 2

Cell 2 is located in the former Coal Basin Area, and IMs included 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 the removal of VOCs from intermediate zone groundwater. The AS/SVE system ceased operation in early 2019 when groundwater elevations rose above the vapor extraction trench level.

The Cell 2 system did not operate in 2023 while an assessment of the system effectiveness and necessity was undertaken. Based on Agency request, the Cell 2 GWPT system was restarted on November 25, 2024. The restart was delayed due to the Francis Scott Key Bridge recovery efforts on Coke Point. The GWPT system operated at approximately 34% runtime in the fourth quarter of 2024, and removed approximately 400 pounds of hydrocarbons.

### CELL 3

Cell 3 is located at the southern edge of the COA and IMs include the operation of an AS/SVE system for the removal of VOCs from shallow zone groundwater. The AS/SVE system operated at approximately 99% runtime and removed approximately 17 pounds of hydrocarbons during 2024. Approximately 26 pounds of hydrocarbons were removed in 2023. Air sparging and soil vapor extraction were focused on the eastern-third of the 600-foot-long AS/SVE remediation line in response to investigations indicating that the eastern-third of the treatment zone contains a majority of the local VOC-impacted groundwater.

**CELL 4**

Cell 4 is located in the Turning Basin of the former COA. The former IM included the use of pneumatic skimmer pumps to recover high-naphthalene, dense non-aqueous phase liquid (DNAPL) from shallow zone groundwater. A total of approximately 1,604 gallons of DNAPL was recovered from Cell 4 from 2015 to 2023. In January 2023, the Cell 4 IM system was dismantled; excavation activities were undertaken between January and June 2023. The DNAPL excavation removed approximately 18,165 tons of impacted material (approximately 336,000 pounds of naphthalene). Quarterly groundwater gauging and sampling is ongoing.

**CELL 5**

Located approximately 350 feet southeast of Cell 4, the Cell 5 IMs include the use of a dual-phase extraction (DPE) system to extract naphthalene-impacted groundwater from an aligned series of groundwater extraction wells. In March 2023, eight of the original DPE wells were replaced with new extraction wells constructed with deeper screen intervals to more effectively target the removal of naphthalene-impacted groundwater. The DPE system operated at approximately 81% runtime during 2024, and removed approximately 141 pounds of hydrocarbons, compared to 263 pounds removed in 2023.

**CELL 6**

The Cell 6 IMs originally consisted of a multi-phase extraction (MPE) system to remove light non-aqueous phase liquid (LNAPL) from a densely spaced extraction well field. The MPE system removed 7,643 gallons of LNAPL between system startup in October 2016 and 2021 (in addition to 16,162 gallons removed between 2010 and 2019 via manual skimming and bailing). The MPE system did not operate in 2023 and 2024 in order to conduct a pilot test and full-scale hotspot removal/treatment for the residual LNAPL within the Cell 6 MPE system recovery field. Full-scale removal and treatment was conducted in May 2024, with results presented in the *Cell 6 Hotspot Removal/Treatment Final Report* (ARM Group, August 16, 2024). A total of 628 cubic yards (CY) of LNAPL-impacted material was excavated, treated where necessary, and transported to Greys Landfill for disposal.

In 2024, LNAPL removal/pumping operations (via pumps, absorbent socks, and enhanced fluid recovery [EFR] events) continued via well CO173 and several test pits/recovery sumps. Approximately 464 gallons of LNAPL were recovered from CO173 in 2024, with a total of 8,819 gallons removed since 2019. Approximately 2,522 gallons of LNAPL were recovered from the test pit excavations and recovery sumps in 2024, with a total of 4,965 gallons removed since 2022.

Quarterly LNAPL gauging is conducted from the remaining extraction wells, observation points, and recovery sumps.

**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* (January 15, 2021), is ongoing. The Cell 1, Cell 2, Cell 3, and Cell 5 IM remediation systems will continue to operate with no expected alterations or modifications while the Corrective Measures Study (CMS) is being reviewed with continued evaluation of remedial alternatives and development of a final remedy. The Cell 4 DNAPL source area was excavated and restored during 2023. LNAPL recovery will continue at Cell 6. In addition, an expanded pilot test was conducted to address remaining LNAPL-impacted soil within the Cell 6 MPE recovery well field.



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## 1.0 INTRODUCTION

The Coke Oven Area (COA) Annual Interim Measures (IMs) Progress Report 2024 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 IMs and a review of groundwater sample testing data for monitoring wells associated with the respective remediation systems through 2024. This report is submitted in accordance with reporting requirements outlined in correspondence received from the United States Environmental Protection Agency (USEPA) on March 26, 2013, November 14 and 16, 2017, and subsequent communications. All reports are submitted to the Maryland Department of the Environment (MDE) and the USEPA (hereafter referred to as the Agencies).

### 1.1 TPA 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 in **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's revitalization plans, the property is undergoing transformation with demolition/revitalization of former production parcels and redevelopment of the TPA Sparrows Point Peninsula as a regional 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 in **Figure 2**. A Coke Point Area synoptic gauging round was conducted on February 27, 2024 from representative wells (related to the Coke Point Area Corrective Measures Study [CMS]); refer to **Figure 3** for the shallow groundwater elevation contours. For each cell, the IM progress report provides a description of current and former IM efforts, notable operations & maintenance activities completed during 2024, discussion of system operational information, and groundwater sample testing results for 2024. 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 address intermediate groundwater zone volatile organic compound (VOC) impacts;
- 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 phase liquid (DNAPL) recovery system formerly 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 removal); and
- Cell 6 (former Benzol Processing Area): Multi-phase extraction (MPE) system originally designed and formerly operated to recover light non-aqueous phase liquid (LNAPL) from shallow groundwater; LNAPL recovery is ongoing at several test pits/recovery sumps and at well CO173.

## 2.0 CELL 1

### 2.1 DESCRIPTION

Cell 1 IMs include the use of an AS/SVE system for the removal of VOCs from shallow zone groundwater 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 high-density polyethylene (HDPE) piping. VOCs stripped from the groundwater and emitted into the vadose zone are removed under vacuum via a site-encompassing horizontal SVE trench that is 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**. Prior to August 2024, AS/SVE operations alternated between the northern and southern halves of the wellfield for 30-day and 14-day periods, respectively. In August 2024 the Cell 1 AS/SVE system experienced a damaging power surge likely caused by a nearby lightning strike. The system was brought back online on November 15, 2024, following the installation of the repaired AS motor. During the startup testing it was determined the repaired AS motor was drawing more amps than originally designed for; to prevent damage and alleviate this issue, the AS/SVE system was reconfigured to operate in both the northern and southern halves of the wellfield simultaneously. The system operated at approximately 63% runtime during 2024, largely due to the system downtime after the lightning strike. Other minor system downtime was a result of electrical power losses, preventative maintenance, and equipment repairs (i.e., replacement of a compressor aftercooler fan). The average daily VOC removal rate during 2024 was approximately 0.327pound per day, with quarterly average daily VOC removal rates ranging from approximately 0.0044 (3Q24) to approximately 0.5485 (2Q24) pound per day. Based on the system removal data from **Table C1-1**, the Cell 1 AS/SVE system removed approximately 76 pounds of hydrocarbons in 2024, compared to 68 pounds removed in 2023 and 92 pounds removed in 2022. As shown on **Figure C1-2**, approximately 16,735 pounds of hydrocarbons have been removed to date. **Figure C1-1** includes a cumulative summary of operational performance since system activation in August 2012;. As shown on **Figure C1-2**, AS/SVE system recovery has become asymptotic.

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

## 2.3 GROUNDWATER SAMPLING RESULTS

Groundwater samples are collected from two monitoring wells on a quarterly schedule and from a third monitoring well on an annual schedule to monitor VOC concentrations. **Figure C1-1** presents the monitoring well locations; the monitoring wells 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).

Monitoring well groundwater elevation gauging data for 2024 are summarized in **Table C1-3**. The groundwater samples were submitted to Alpha Analytical for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), and naphthalene per USEPA Method 8260. Groundwater analytical results are presented in **Table C1-4**. A time-series graph of VOC concentrations is included as **Figure C1-3**.

VOC concentrations in upgradient monitoring well CO93-PZM have not changed appreciably since early 2017, and VOC concentrations in plume-central monitoring well CO190-MWS are fluctuating within the historical range, following a sharp anomalous decrease in August 2022. Downgradient monitoring well CO191-MWS has shown a decrease in total VOCs during recent sampling, going from 76,120 micrograms/liter (µg/L) in May 2023 to 37,710 µg/L in June 2024 (**Figure C1-3**). Cell 1 is hydraulically downgradient from Cell 6. The petroleum hydrocarbon LNAPL mass in Cell 6 likely contributes to the benzene mass measured in Cell 1; continued mass LNAPL removal at Cell 6 will be part of the final remedy. **Figure C1-4** presents CO190-MWS benzene concentrations vs. depth to groundwater.

SVE influent soil vapor sample and groundwater sample laboratory analytical reports are included in **Appendix A**. Groundwater sampling purge logs are included in **Appendix B**. A chronology of Cell 1 operations during 2024 is included in **Appendix C**. Historical analytical results for all Cell 1 monitoring wells are included in **Appendix D**.

## 2.4 SUMMARY AND RECOMMENDATIONS

The Cell 1 AS/SVE system removed approximately 76 pounds of hydrocarbons in 2024. No major adjustments to the current alternating operations (i.e., north/south) are expected for 2025. Cell 6 abatement measures will continue and should facilitate reductions in the benzene mass beneath Cell 1.

## 3.0 CELL 2

### 3.1 DESCRIPTION

Cell 2 is located in the former Coal Basin Area, and IMs included the use of an AS/SVE system designed to address shallow groundwater impacts and a GWPT system designed for hydraulic control and removal of VOCs from intermediate zone groundwater. The AS/SVE system ceased operation early 2019 when groundwater elevations rose above the vapor extraction trench level. The Cell 2 system did not operate in 2023, while an assessment of the system's effectiveness and necessity was undertaken. Based on Agency request, the Cell 2 GWPT system was restarted on November 25, 2024. The restart was delayed due to the Francis Scott Key Bridge recovery efforts on Coke Point. The GWPT system operated at approximately 34% runtime in the fourth quarter of 2024 and removed approximately 400 pounds of hydrocarbons during 2024.

**Figure C2-1** presents the system layout of Cell 2 including the locations of groundwater extraction wells, treated water reinjection wells, AS wells, SVE trench, and monitoring wells. The cumulative hydrocarbon mass removed from the subsurface at Cell 2 since GWPT system start-up is presented graphically on **Figure C2-2**.

### 3.2 OPERATIONS

Cell 2 system operational data are summarized in **Table C2-1**. During the fall of 2024, various modifications and repairs were made to bring the Cell 2 system back online and resume GWPT operations. In June 2022, it was determined that the vapor phase catalytic oxidizer (CatOx) treatment system had failed and would require complete overhaul or replacement. As part of the fall 2024 modifications, two 3,000-pound vapor-phase granular activated carbon (VGAC) vessels were added in series to serve a replacement of the failed CatOx unit. Additionally, the system was plumbed to extract only from well CO46-PZM047 (EW-4), located in the center of the dissolved-phase plume.

The GWPT system was restarted on November 25, 2024 and operated through December 19, 2024, when it was shut down to address carbon breakthrough on the VGAC vessels. Before the GWPT system was taken offline it removed approximately 191,309 gallons of dissolved-phase VOC-impacted groundwater from extraction well EW-4, resulting in the removal of approximately 400 pounds of hydrocarbons in the fourth quarter of 2024 (**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 GROUNDWATER SAMPLING RESULTS

Groundwater samples are collected from Cell 2 monitoring wells quarterly to evaluate VOC concentrations in groundwater within the local shallow and intermediate zones. Monitoring well construction information is summarized in **Table C2-2**, and the monitoring well groundwater



elevation gauging data for 2024 are summarized in **Table C2-3**. Site redevelopment activities that were initiated during the third quarter of 2023 prevented access to several monitoring wells during the first quarter of 2024. Francis Scott Key Bridge recovery efforts also prevented access to multiple monitoring wells in the second through fourth quarters of 2024. **Figure C2-1** presents the monitoring well locations in the Cell 2 study area.

Groundwater samples were submitted to Alpha Analytical for analysis of BTEX and naphthalene per USEPA Method 8260. Groundwater sample testing results are presented in **Table C2-4**. **Figure C2-3** presents quarterly benzene concentrations in the shallow zone wells. **Figure C2-4** presents quarterly benzene concentrations in the intermediate zone wells. Time-series graphs of Total VOC concentrations in shallow zone monitoring wells and intermediate zone monitoring wells are presented on **Figures C2-5** and **C2-6**, respectively. During 2024 groundwater elevations in the shallow zone monitoring wells were approximately the same as those observed in 2023. For wells that were sampled in 2024, specific trends in VOC concentrations in Cell 2 monitoring wells are summarized below.

| Monitoring Well               | Total VOC Concentration Trend                                                                    |
|-------------------------------|--------------------------------------------------------------------------------------------------|
| Shallow Zone                  |                                                                                                  |
| CO27-PZM012 (center of plume) | Stable since mid-2020 and decreasing over time                                                   |
| CO37-PZM003 (crossgradient)   | Concentrations fluctuating since 2022, but half order of magnitude decrease over time            |
| CO41-PZM001 (upgradient)      | Increasing since early-2021, spike in fourth quarter of 2024 (but within historical range)       |
| CO42-PZM004 (upgradient)      | Concentrations fluctuating since 2018, but three order of magnitude decrease over time           |
| CO186-MWS (upgradient)        | Concentrations generally decreasing, but increased in 2024; sampled six times since installation |
| Intermediate Zone             |                                                                                                  |
| CO27-PZM046 (center of plume) | One order of magnitude decrease; slower reduction since late-2019                                |
| CO37-PZM038 (crossgradient)   | Concentrations stable since late-2017                                                            |
| CO41-PZM036 (upgradient)      | Concentrations stable since early-2020                                                           |
| CO182-MWI (upgradient)        | Concentrations decreasing over the last six sampling events                                      |
| GD01-MWI (downgradient)       | Concentrations stable with slight increase in 2024                                               |
| GD02-MWI (downgradient)       | Slight increase since installation                                                               |

Groundwater sample laboratory analytical reports are included in **Appendix A**. Groundwater sampling purge logs are included in **Appendix B**. A chronology of Cell 2 operations during 2024 is included in **Appendix C**. Historical 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 of the site, includes a GWPT system for the recovery of VOC-impacted groundwater from the intermediate zone, and a formerly operated AS/SVE

system designed to address VOCs in the shallow zone groundwater. The AS/SVE system has not operated since early 2019 because of shallow groundwater flooding of the SVE trench.

The GWPT system will continue to be operated as an IM in its current configuration of pumping from the center of the dissolved benzene plume in well CO46-PZM047 (EW-4).

## 4.0 CELL 3

### 4.1 DESCRIPTION

Cell 3 IMs include the use of an AS/SVE system designed to remove VOCs from shallow zone 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. **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 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 shallow zone groundwater was conducted during previous investigations and indicated that the majority of the benzene mass beneath Cell 3 is located from 15- to 30-feet below ground surface (bgs) and the majority of the naphthalene mass is located from 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 AS wells were installed to total depths between approximately 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 shallower (upper) portion of the naphthalene-impacted zone. Air sparge well construction information is summarized in **Table C3-1**.

### 4.2 OPERATIONS

The operational performance of the AS/SVE system during 2024 is summarized in **Table C3-2**. The system operated at approximately 99% runtime during 2024. Any system downtime was a result of electrical power losses, preventative maintenance, and minor repairs. Approximately 17 pounds of hydrocarbons were removed in 2024, compared to 26 pounds removed during 2023 and 72 pounds removed during 2022. An estimated 2,346 pounds of hydrocarbons have been removed to date (**Figure C3-2**). A chronology of Cell 3 operations during 2024 is included in **Appendix C**.

SVE influent (e.g., pre-treatment) system vapor samples are collected monthly to assess hydrocarbon removal rates. The monthly SVE influent system vapor samples were submitted to Maryland Spectral Services for analysis of VOCs per USEPA Method 8260D. 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 being operated at nearly 100% runtime since mid-April 2022.

### 4.3 GROUNDWATER SAMPLING 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 VOC concentrations. **Figure C3-1** presents the monitoring well locations. Groundwater samples were collected from the following monitoring wells:

- |                                                                                                                                                                                              |                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• CO30-PZM015 (downgradient),</li> <li>• CO30-PZM060 (downgradient),</li> <li>• CO194-MWS (upgradient),</li> <li>• CO195-MWS (upgradient),</li> </ul> | <ul style="list-style-type: none"> <li>• CO196-MWS (upgradient),</li> <li>• CO198-MWS (downgradient), and</li> <li>• CO201-MWS (downgradient).</li> </ul> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|

Groundwater samples were submitted to Alpha Analytical for analysis of BTEX and naphthalene per USEPA 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 2024, respectively. A time-series graph of total VOC concentrations is included as **Figure C3-5**. Note that the data for CO30-PZM060 are plotted using the axis on the right side of the graph. Groundwater sample testing indicates that benzene and naphthalene are the two most prevalent VOC constituents in local shallow zone groundwater. Reductions in total VOC concentrations are observed in monitoring wells CO30-PZM015, CO194-MWS, CO196-MWS, CO198-MWS. Fluctuating but mostly consistent Total VOC concentrations are observed in monitoring wells CO195-MWS and CO201-MWS. A spike in total VOC concentrations was observed in CO30-PZM060 during the second quarter of 2024 (from 8 µg/L in 2023 to 109 µg/L in 2024); however, the result is within the historical range for the well. Additional sampling in 2025 will determine if the concentration is an anomaly or a consistently high spike in concentration.

SVE influent soil vapor sample and groundwater sample laboratory analytical reports are included in **Appendix A**. Groundwater sampling purge logs are included in **Appendix B**. A chronology of Cell 3 operations during 2024 is included in **Appendix C**. Historical analytical results for all Cell 3 monitoring wells are included in **Appendix D**.

### 4.4 SUMMARY AND RECOMMENDATIONS

The Cell 3 AS/SVE system removed approximately 17 pounds of hydrocarbons in 2024. The Cell 3 AS/SVE system will continue to be operated in 2025.

## 5.0 CELL 4

### 5.1 DESCRIPTION

The Cell 4 IM consisted of a DNAPL recovery system operated in the naphthalene source area upgradient of Cell 5. A total of approximately 1,604 gallons of DNAPL were recovered from Cell 4 from 2015 to 2023. In January 2023, DNAPL recovery pump operations ceased, and the Cell 4 extraction and monitoring wells were abandoned in accordance with the *DNAPL Excavation Work Plan Area B: Parcel B10 Cell 4* (November 10, 2022 and subsequent comments received November 15, 2022, with a comment response provided December 13, 2022). Excavation activities were undertaken between January and June 2023, with backfilling performed in October and November 2023. The excavation was advanced to approximately 22 feet bgs, and 18,165 tons of impacted material (approximately 336,000 pounds of naphthalene) were removed and disposed of at Greys Landfill (*Cell 4 DNAPL Excavation Report*, ARM, 2024). Refer to **Figure C4-1** for excavation extents.

### 5.2 SUMMARY AND RECOMMENDATIONS

Cell 4 IMs included the use of pneumatic skimmer pumps to recover high-naphthalene DNAPL from shallow zone recovery wells. A total of approximately 1,604 gallons of DNAPL was recovered from Cell 4 from 2015 to 2023. In January 2023, DNAPL recovery pump operations ceased, and the Cell 4 extraction and monitoring wells were abandoned due to the planned excavation activities. Excavation activities undertaken in 2023, removed approximately 18,165 tons of impacted material (approximately 336,000 pounds of naphthalene).

Quarterly groundwater gauging and sampling is ongoing and is reported in the *Cell 4 Semi-Annual Groundwater Sampling Reports*. Additional actions, if warranted, in the vicinity of Cell 4 will be evaluated in the upcoming Coke Point Area Groundwater CMS.

## 6.0 CELL 5

### 6.1 DESCRIPTION

Cell 5 is located approximately 350 feet southeast of Cell 4, and IMs include the use of a DPE system to extract naphthalene-impacted groundwater. **Figure C5-1** presents the system layout of Cell 5 including the locations of the extraction wells, groundwater reinjection wells, and monitoring wells. In March 2023, eight of the original 12 DPE wells were over-drilled and replaced with new extraction wells constructed with deeper screened sections from 15- to 25-feet bgs to better target deeper-set naphthalene impacts. The DPE system uses a high-vacuum, liquid ring pump (LRP) to extract VOC-impacted groundwater from six of the eight reinstalled extraction wells (CO63-PZM007, CO64-PZM006, CO65-PZM005, CO66-PZM005, CO67-PZM006, and CO68-PZM005), with extracted groundwater treated through a low-profile air stripper and carbon filters. Treated groundwater is discharged into six 6-inch diameter by 15-foot-deep reinjection wells located north of Cell 4.

### 6.2 OPERATIONS

During 2024, the DPE system operated at 81% runtime. On December 20, 2023, a significant leak was discovered in the lead liquid-phase granular activated carbon (LGAC) filter vessel which resulted in a system shutdown while a replacement vessel was acquired. On March 5, 2024, the replacement LGAC vessel was installed, and on March 6, 2024, the system was restarted and remained online for the remainder of 2024. During 2024, approximately 2.2 million gallons of naphthalene-impacted groundwater were recovered and effectively treated for onsite discharge, resulting in the removal of approximately 141 pounds of hydrocarbons (**Table C5-1**). The 2024 recovery volumes were a decrease from the 2023 recovery volumes (4.7 million gallons of naphthalene-impacted groundwater treated and approximately 263 pounds of hydrocarbons removed). The cumulative hydrocarbon mass removed since system activation is presented graphically on **Figure C5-2**.

### 6.3 GROUNDWATER SAMPLING RESULTS

Groundwater samples are collected from Cell 5 monitoring wells quarterly to monitor VOC concentrations within local 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**. **Figure C5-3** presents a groundwater elevation contour map for the second quarter of 2024.

Groundwater samples were submitted to Alpha Analytical for analysis of BTEX and naphthalene per USEPA Method 8260. Groundwater sample testing results are presented in **Table C5-4**.

Naphthalene is the most prevalent VOC in groundwater in the vicinity of Cell 5. **Figures C5-4** through **C5-7** present the naphthalene concentrations in the shallow zone groundwater monitoring wells during each quarter of 2024. A time-series graph of Total VOC concentrations in

groundwater samples collected from monitoring wells located in the reinjection-area (Cell 4) is presented on **Figure C5-8**. Note that the data for CO24-PZM007 are plotted using the axis on the right side of the graph. A time-series graph of total VOC concentrations in groundwater samples collected from monitoring wells located in the Cell 5 IM area is presented on **Figure C5-9**. A time-series graph of total VOC concentrations in perimeter monitoring wells is presented on **Figure C5-10**. A summary of total VOC concentration trends is presented below.

| Monitoring Well                                | Total VOC Concentration Trend                                                       |
|------------------------------------------------|-------------------------------------------------------------------------------------|
| CO23-PZM008 (upgradient/reinjection wellfield) | Stable since early 2020                                                             |
| CO24-PZM007 (upgradient/reinjection wellfield) | Spike in late 2019, late 2023, and Q2 2024; but concentrations decreasing over time |
| CO26-PZM007 (downgradient/eastern perimeter)   | Concentrations highly variable with minor decrease in concentrations over time      |
| CO55-PZM000 (upgradient)                       | Concentrations highly variable but remains within historic range                    |
| CO56-PZP001 (upgradient)                       | Concentrations decreasing over time                                                 |
| CO57-PZP002 (crossgradient)                    | Concentrations variable, with slight increase since 2023 and spike in Q2 2024       |
| CO58-PZM001 (downgradient/eastern perimeter)   | Concentrations slowly decreasing over time                                          |
| CO59-PZP002 (upgradient)                       | Concentrations highly variable but remains within historic range                    |
| CO60-PZP001 (crossgradient/eastern perimeter)  | Concentrations variable but decreasing over time, not sampled since 2022            |

A spike was identified in several wells (CO23-PZM008, CO24-PZM007, CO57-PZP002, and CO59-PZP002) in the second quarter of 2024, followed by a decrease in concentrations in the third quarter of 2024. These wells will continue to be monitored for concentration fluctuations to determine if the second quarter results were an anomaly. Groundwater sample laboratory analytical reports are included in **Appendix A**. Groundwater sampling purge logs are included in **Appendix B**. A chronology of Cell 5 operations during 2024 is included in **Appendix C**. Historical analytical results for all Cell 5 monitoring wells are included in **Appendix D**.

#### 6.4 SUMMARY AND RECOMMENDATIONS

The DPE system operated for 81% runtime during 2024 and removed approximately 141 pounds of hydrocarbons from the shallow zone groundwater underlying Cell 5. Cell 5 will continue to be operated in 2025. The previously conducted Cell 4 DNAPL source removal/excavation activities will facilitate reductions in groundwater VOC concentrations (e.g., naphthalene) in the vicinity of Cell 5.

## 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 originally designed IMs for Cell 6 included the use of a LNAPL MPE system with CatOx and/or carbon off-gas treatment units. **Figure C6-1** presents the system layout of Cell 6 including the locations of the extraction wells (both existing and abandoned), groundwater reinjection wells, and monitoring wells. The MPE system removed 7,643 gallons of LNAPL between system startup in October 2016 and 2021 (in addition to 16,162 gallons removed between 2010 and 2019 via manual skimming and bailing).

Cell 6 MPE system recovery rates have been significantly diminishing, with three isolated areas producing recoverable material: CO92/CO150 and CO99 located within the Cell 6 MPE system recovery field, and CO95 located outside the MPE system recovery field. The Cell 6 MPE system did not operate in 2023 in preparation for conducting a pilot test to evaluate various soil treatment options. The *COA Cell 6 Hotspot Excavation Work Plan* (December 2022) and the *COA Cell 6 Pilot Test Work Plan - Revision 1* (October 2023), and respective comment response letters were submitted to the Agencies, proposing “hotspot” excavation and treatment for the remaining areas with more than 1 foot of LNAPL within the Cell 6 MPE system recovery field. A pilot test was conducted in November 2023 to assess the use of sodium persulfate and hydrogen peroxide to reduce the benzene concentrations in LNAPL-impacted soils, with results presented in the *COA Cell 6 Pilot Test Status Update – Revision 1* (ARM Group, January 9, 2024). An expanded pilot test was conducted in February 2024 to further evaluate hotspot removal/treatment for the residual LNAPL within the Cell 6 MPE system recovery field (*Cell 6 Expanded Pilot Test Report (Revision 1)*, ARM Group, April 16, 2024).

**Table C6-1** summarizes cumulative LNAPL volumes recovered in 2024 from well CO173 and the test pits, along with pre-2019 hand bailing/skimmer pump operations, and MPE recovery operations from 2016 through 2021. Since mid-2010, an estimated 37,589 gallons of LNAPL have been recovered. Full-scale removal and treatment was conducted in May 2024, with results presented in the *Cell 6 Hotspot Removal / Treatment Final Report* (ARM Group, August 16, 2024). A total of 628 CY of LNAPL-impacted material was excavated, treated where necessary, and transported to Greys Landfill for disposal. As part of this field work, multiple extraction wells were abandoned (refer to **Figure C6-1**) to facilitate field work and allow space for drying pads around each treatment area. LNAPL recovery sumps were installed in each of the three excavation areas. Quarterly LNAPL gauging is conducted from the remaining extraction wells, observation points, and recovery sumps. The gauging frequency will be re-evaluated after the collection of one year of data (beginning in the third quarter of 2024).



LNAPL removal/pumping operations (via pumps, absorbent socks, and enhanced fluid recovery [EFR] events) continued between 2022 and 2024 via CO173 and several test pits/recovery sumps. A pneumatic skimmer pump was used to recover substantial volumes of LNAPL from CO173 (464 gallons in 2024, 815 gallons in 2023, and 1,400 gallons in 2022). In 2022, two test pits (COA-005-TP to the northwest of Cell 6 and COA-007-TP to the southeast of Cell 6) were excavated and utilized for LNAPL recovery; the test pits were converted to LNAPL recovery sumps in August 2023. Additional test pits were excavated around COA-005-TP and COA-007-TP in 2023 and 2024, with LNAPL removal ongoing. Approximately 2,522 gallons of LNAPL were recovered from the test pit excavations and recovery sumps during 2024 (following 1,631 gallons removed in 2022, and 812 gallons in 2023). Additional information on the test pit NAPL recovery is included in the *CPA Delineation Final Report* (ARM Group, August 28, 2024).

The cumulative hydrocarbon mass recovered from Cell 6 is presented graphically on **Figure C6-2**. All recovered LNAPL and LNAPL sorbent materials are temporarily stored in 55-gallon drums and periodically disposed under manifest by an RCRA-licensed waste hauler at a disposal facility.

Weekly groundwater gauging and LNAPL thickness collected from CO173 during 2024 is presented in **Table C6-2**. **Figure C6-3** presents a summary of the LNAPL thickness in the extraction wells as gauged during the fourth quarter of 2024.

## 7.2 SUMMARY AND RECOMMENDATIONS

The Cell 6 IMs originally consisted of an MPE system to remove LNAPL from a densely spaced extraction well field. The MPE system did not operate in 2023 and 2024 in order to conduct a pilot test and full-scale hotspot removal/treatment for the residual LNAPL within the Cell 6 MPE system recovery field. A total of 628 CY of LNAPL-impacted material was excavated, treated where necessary, and transported to Greys Landfill for disposal. Quarterly LNAPL gauging is conducted from the remaining extraction wells, observation points, and recovery sumps, and reported separately.

LNAPL recovery efforts in 2024 included the use of a semi-automated pneumatic skimmer pump in well CO173, and the use of double-diaphragm pumps, absorbent socks, and EFR to recover LNAPL from several test pits and recovery sumps. LNAPL recovery will continue in 2025, mainly via pumps and EFR events. LNAPL recovery in the vicinity of Cell 6 will be evaluated in the upcoming Coke Point Area Groundwater CMS.

## 8.0 SUMMARY AND CONCLUSIONS

During 2024, the COA Cell 1, Cell 3, and Cell 5 IMs were operated in accordance with their original designs. The Cell 1 IM AS/SVE system removed approximately 76 pounds of hydrocarbons during 2024 and will continue operation in 2025. The Cell 3 IM AS/SVE system removed approximately 17 pounds of hydrocarbons during 2024 and will continue operation in 2025. The Cell 5 IM DPE system recovered and treated over 2.2 million gallons of groundwater and removed approximately 141 pounds of hydrocarbons during 2024, with similar operations expected for 2025.

The Cell 2 GWPT system was restarted on November 25, 2024. The GWPT system recovered and treated over 191,000 gallons of groundwater and removed approximately 400 pounds of hydrocarbons during 2024. Continued operation of the GWPT system is expected for 2025.

At Cell 4, quarterly groundwater gauging and sampling is ongoing and is reported in the *Cell 4 Semi-Annual Groundwater Sampling Reports*. The Cell 6 IM MPE system did not operate in 2024, while the full-scale hotspot removal and treatment operations were conducted, which resulted in a total of 628 CY of LNAPL-impacted material being excavated, treated where necessary, and transported to Greys Landfill for disposal. Quarterly LNAPL gauging will continue from the remaining extraction wells, and will be reported separately.

During 2024, a total of approximately:

- 634 pounds of hydrocarbons were removed by the combined Cell 1, Cell 2, Cell 3, and Cell 5 IMs;
- 2,986 gallons of LNAPL were recovered at Cell 6; and
- 628 CY of LNAPL impacted material were removed from Cell 6 by excavation, treated where necessary, and transported at Greys Landfill.

## 9.0 REFERENCES

ARM Group LLC (2023). *Coke Oven Area Cell 6 Pilot Test Status Update*. Revision 1. January 9, 2024.

ARM Group LLC (2023). *Coke Oven Area Cell 6 Pilot Test Work Plan*. Revision 1. October 25, 2023.

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

ARM Group LLC (2024). *DNAPL Excavation Report*. Revision 0. January 31, 2024.

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.

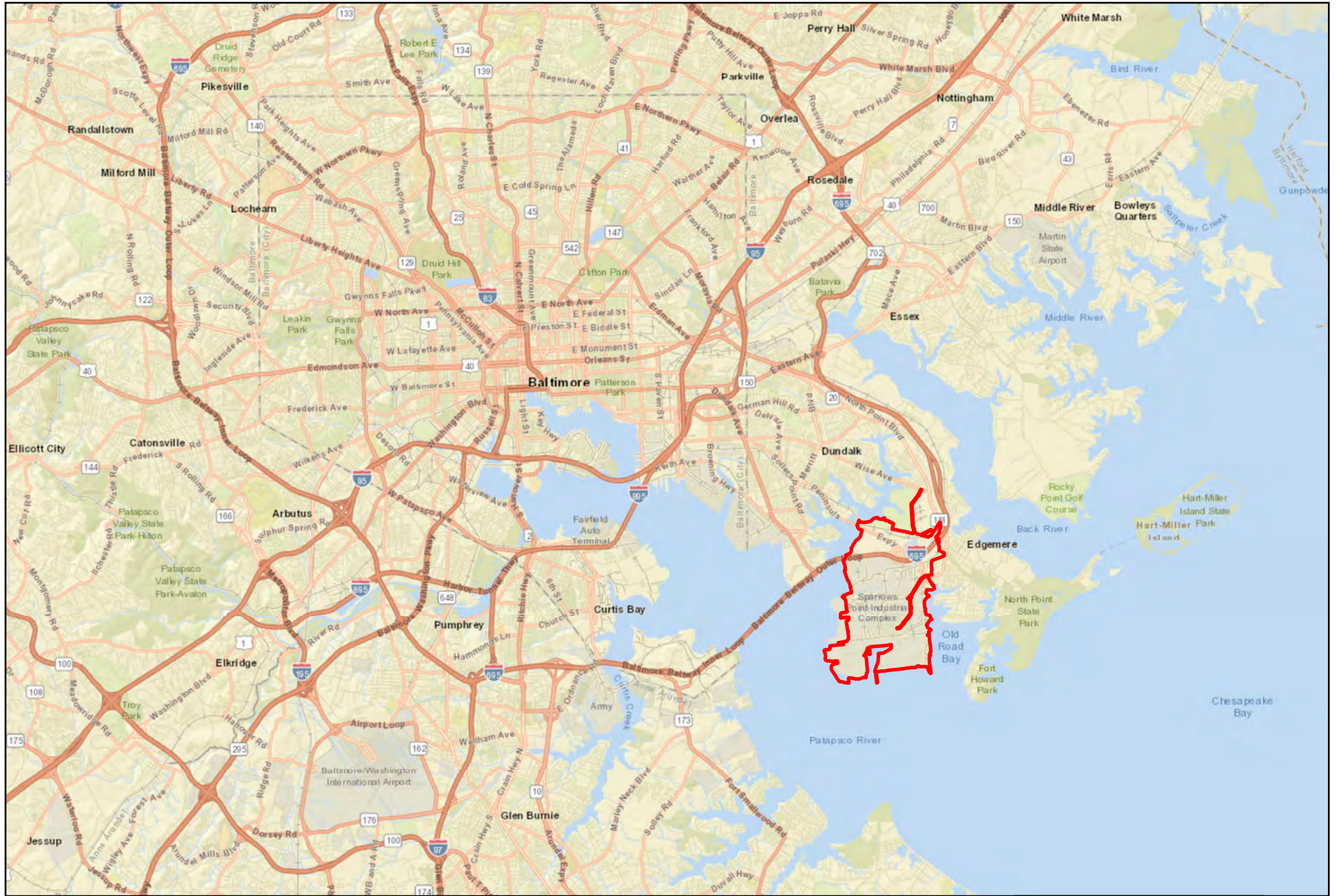
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## FIGURES

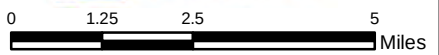
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 Property Boundary

**Tradepoint Atlantic  
Regional Site View**  
January 19, 2021

|                      |
|----------------------|
| Tradepoint Atlantic  |
| Sparrows Point       |
| Baltimore County, MD |

**Figure**  
**1**





MD IMAP, USDA



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1 inch = 500 feet

0 250 500  
Feet

## Former Coke Oven Area Interim Measures Cell Locations

Date: 2/28/2025

## Figure 2









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1 inch = 110 feet

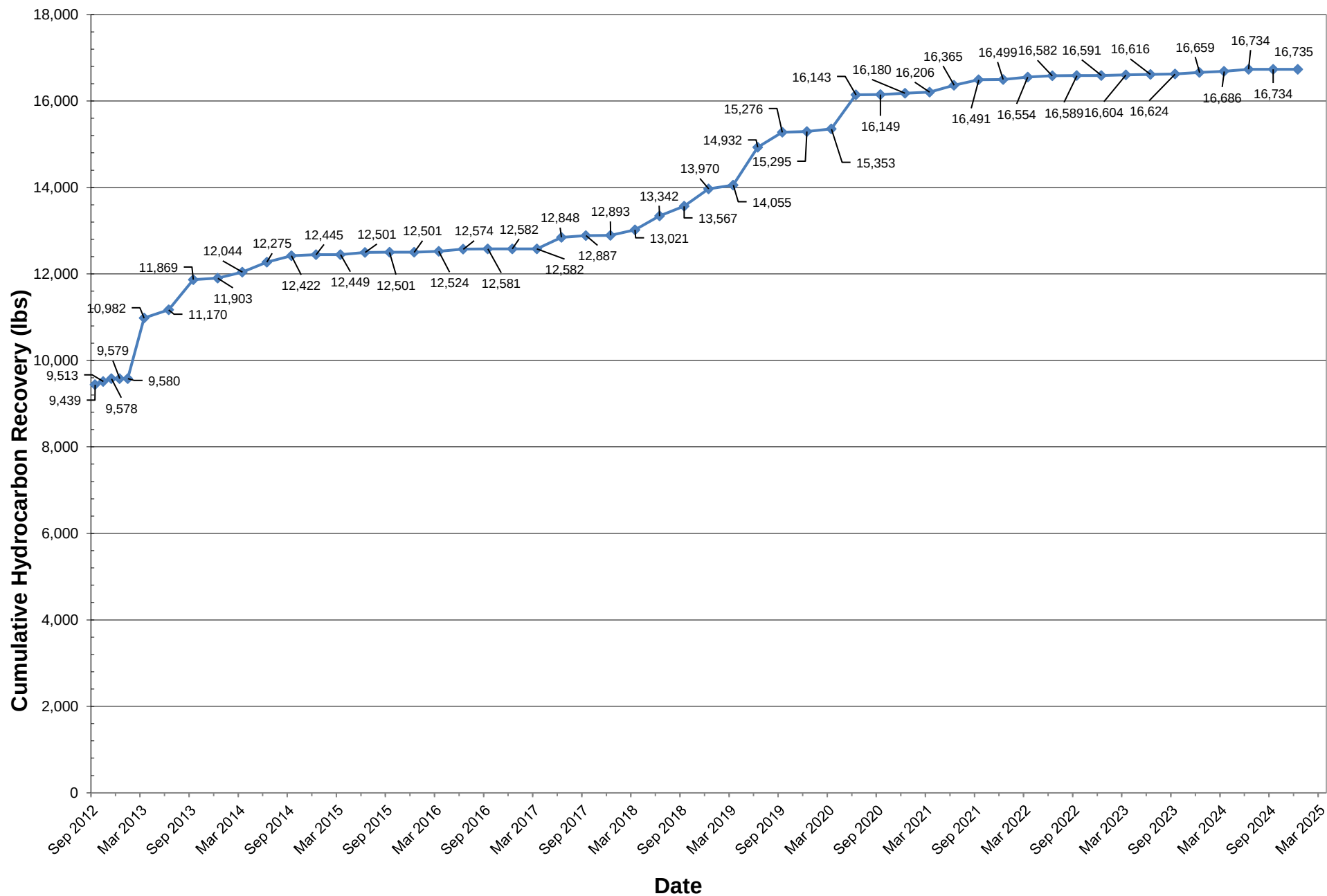
0 55 110  
Feet

Former Coke Oven Area  
Cell 1 System Layout  
AS/SVE

Date: 1/22/2025

**Figure  
C1-1**





Date



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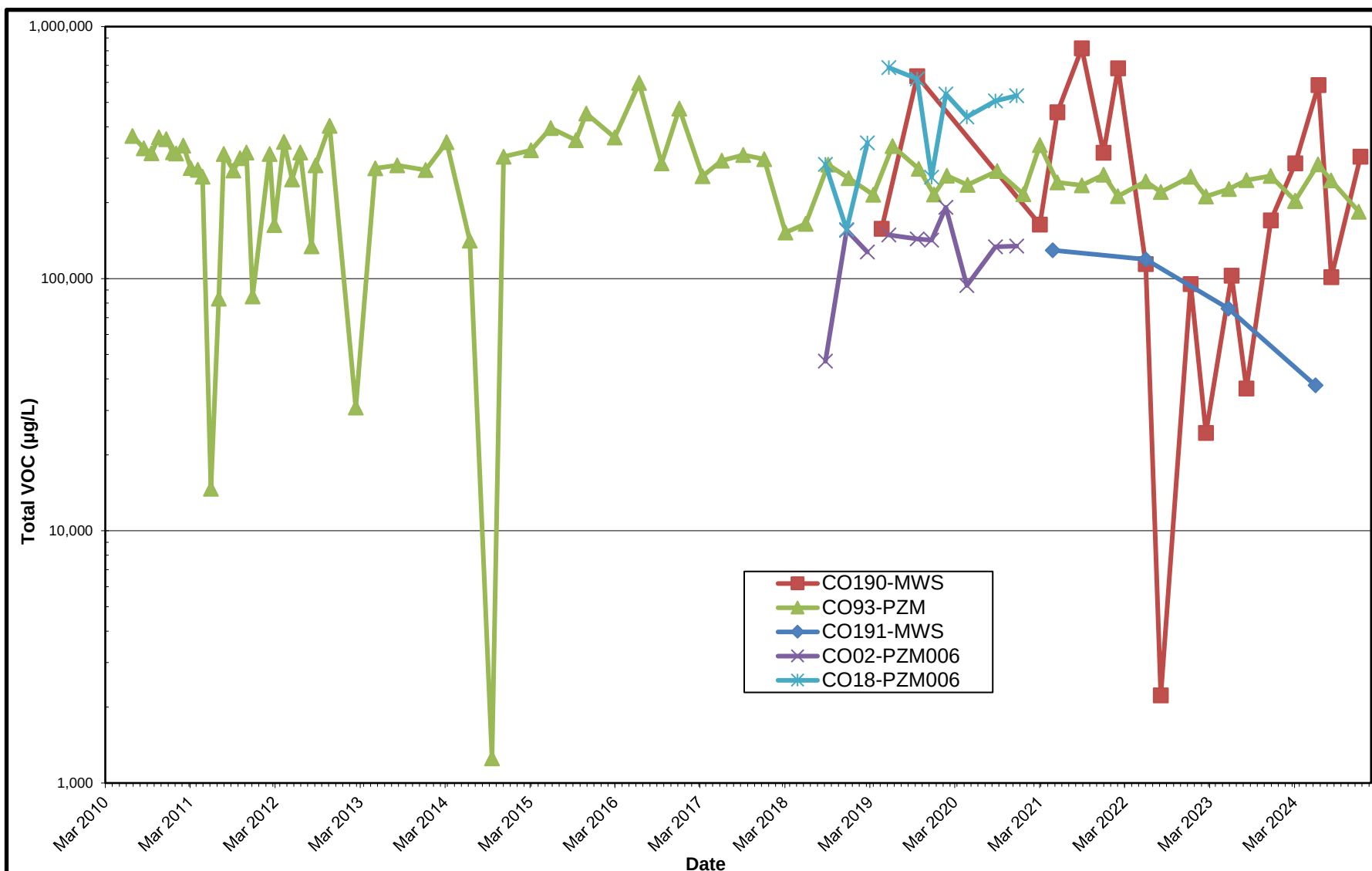
Former Coke Oven Area  
Tradepoint Atlantic

Sparrows Point, Maryland

**Cumulative Hydrocarbon Recovery (lbs)**  
**Cell 1**

February 4, 2025

**Figure**  
**C1-2**



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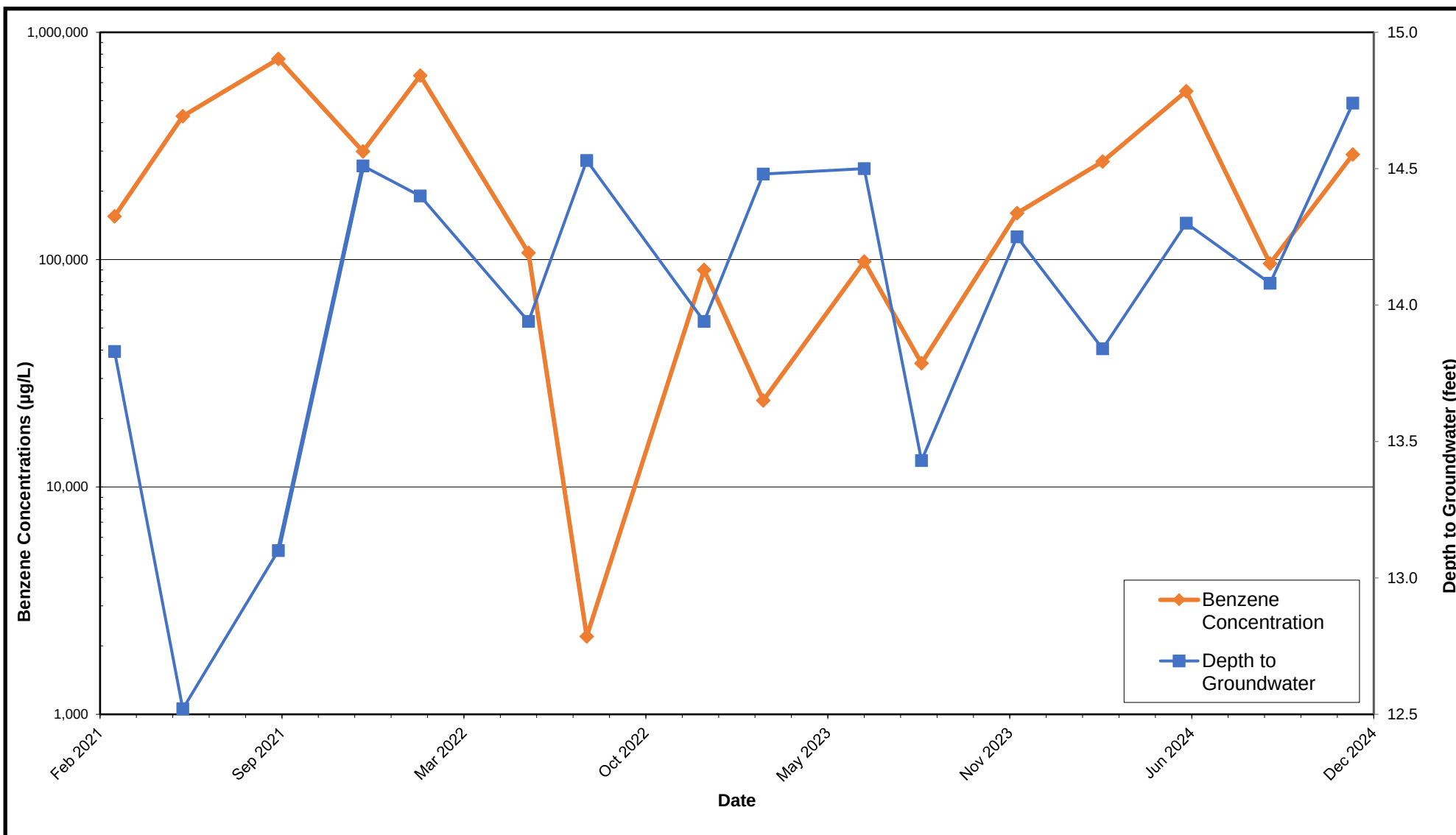
Former Coke Oven Area  
Tradeport Atlantic

Sparrows Point, Maryland

## Total VOCs in Groundwater Cell 1 Shallow Zone

February 3, 2025

**Figure  
C1-3**



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Former Coke Oven Area  
Tradepoint Atlantic

Sparrows Point, Maryland

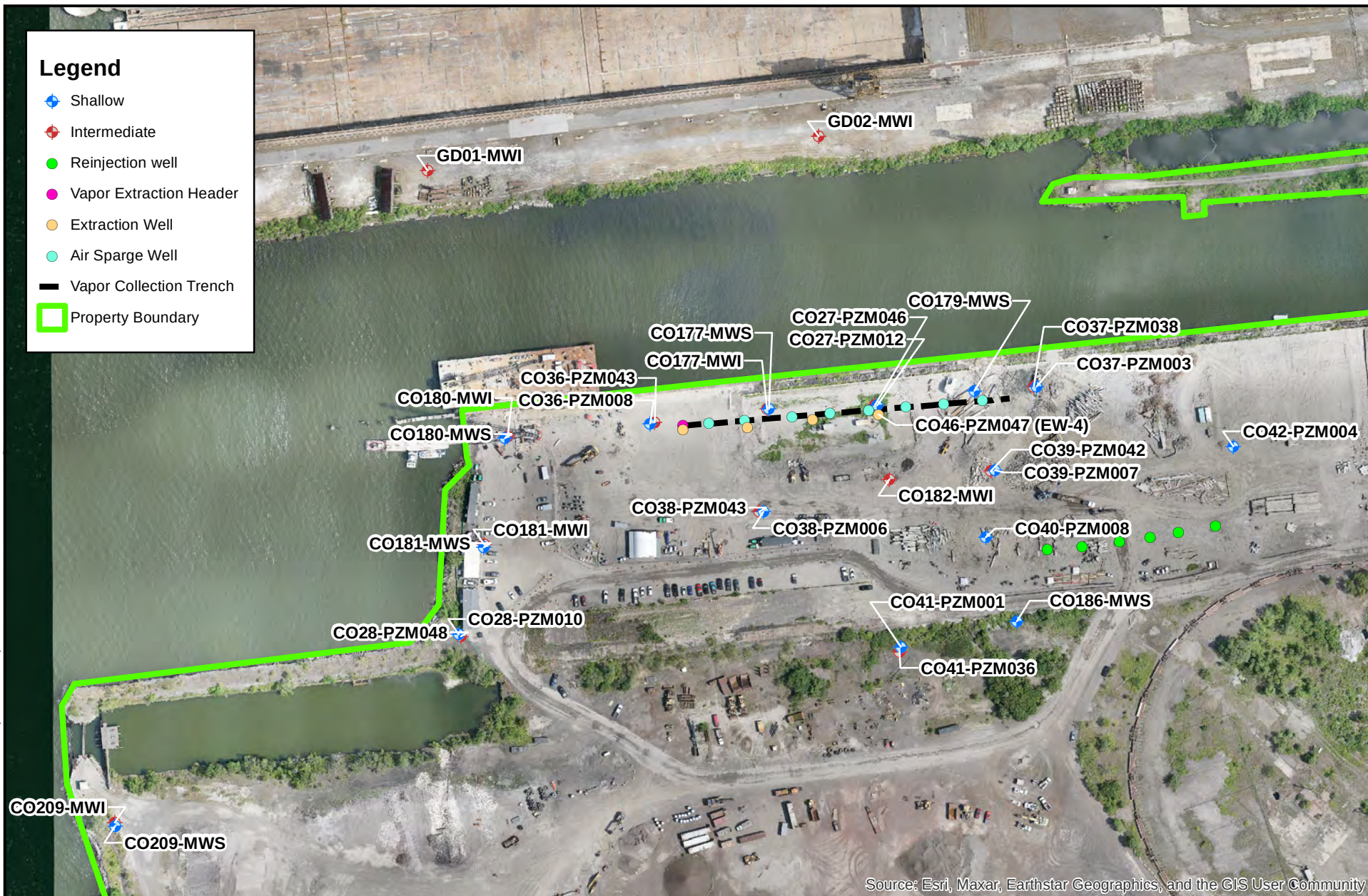
Cell 1 CO190-MWS Benzene Concentration vs.  
Depth to Groundwater Hydrograph

January 9, 2025

**Figure  
C1-4**



P:\EnviroAnalytics Group\Coke Oven\GIS\Coke Oven 8.5x11 (IM 2021 cell 2).mxd



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Engineers and Scientists

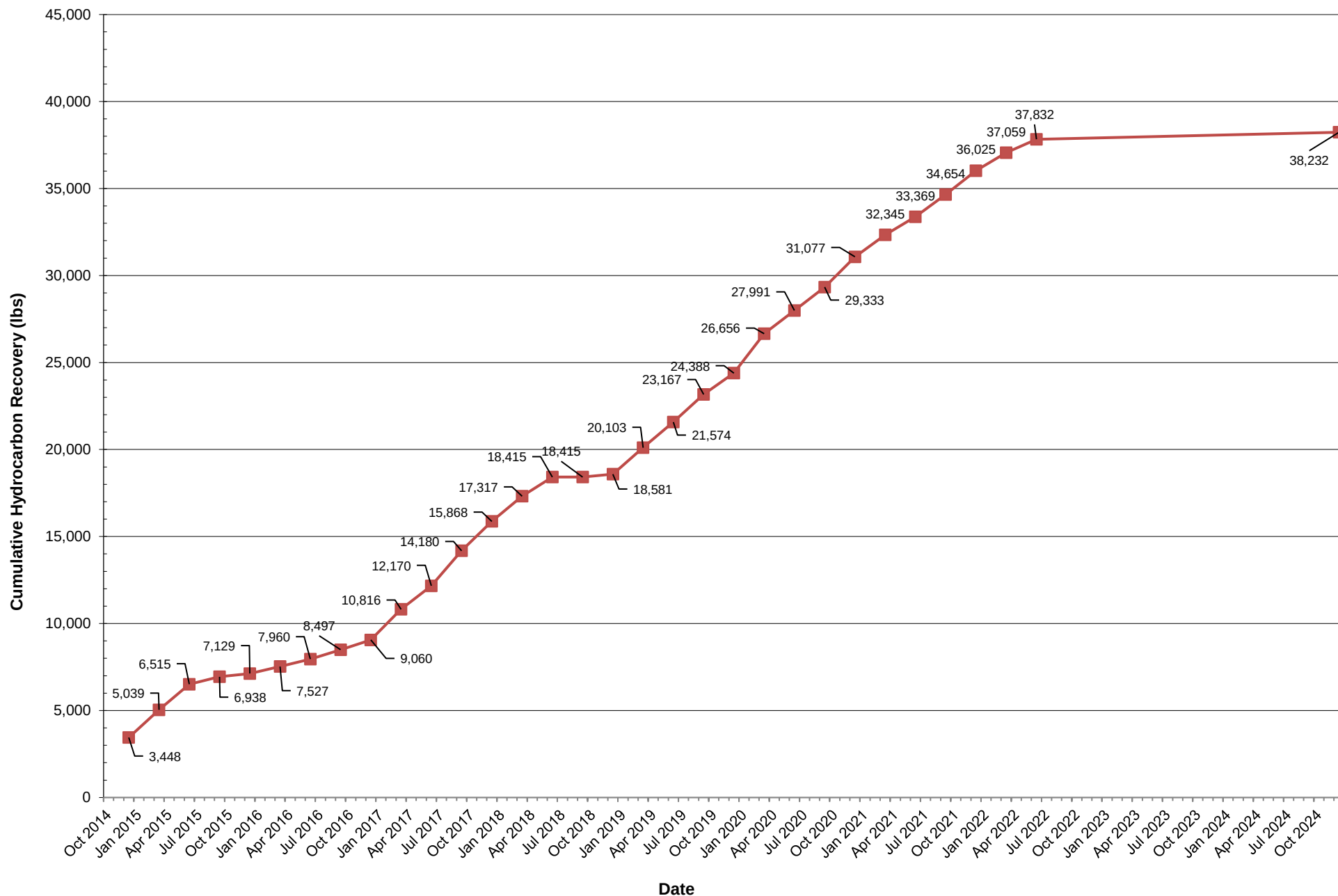
1 inch = 210 feet

0 105 210  
Feet

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

Date: 3/3/2025

**Figure  
C2-1**



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Former Coke Oven Area  
Tradepoint Atlantic

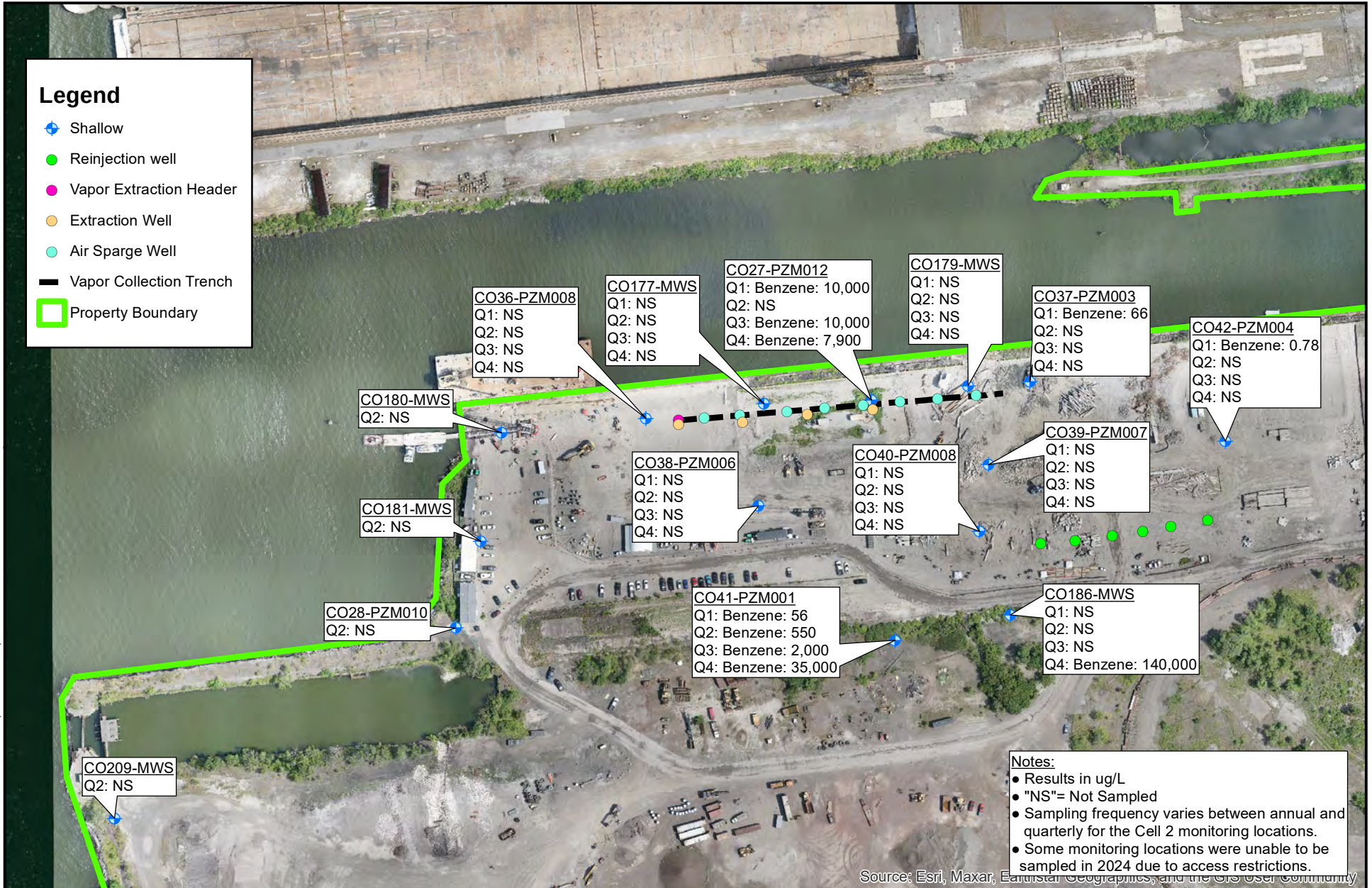
Sparrows Point, Maryland

## Cumulative Hydrocarbon Recovery (lbs) Cell 2

February 4, 2025

**Figure  
C2-2**





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1 inch = 210 feet

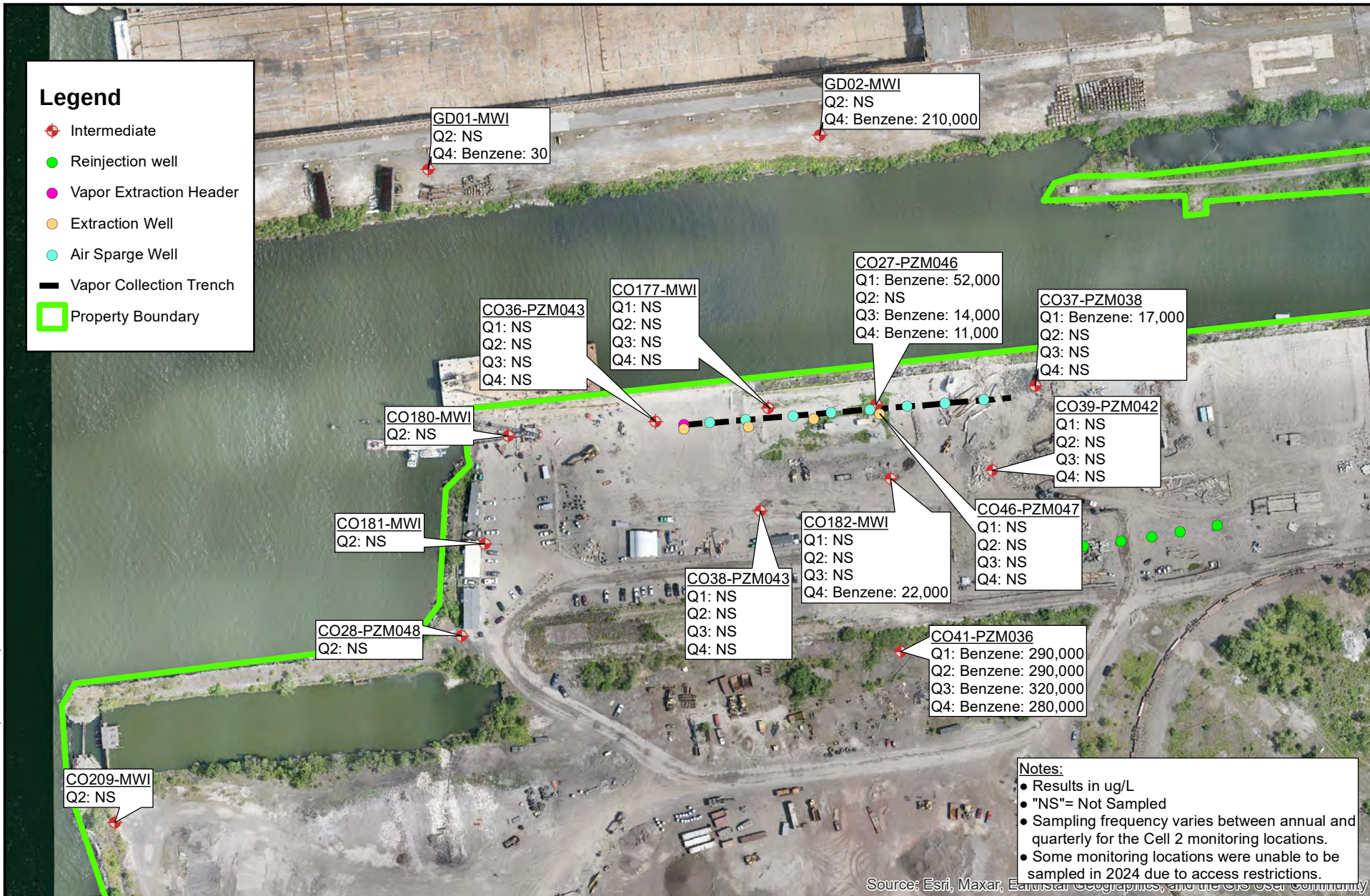
0 105 210  
Feet

**Former Coke Oven Area**  
**Cell 2 2024 Benzene Concentrations**  
**Shallow Zone**

Date: 3/3/2025

**Figure**  
**C2-3**





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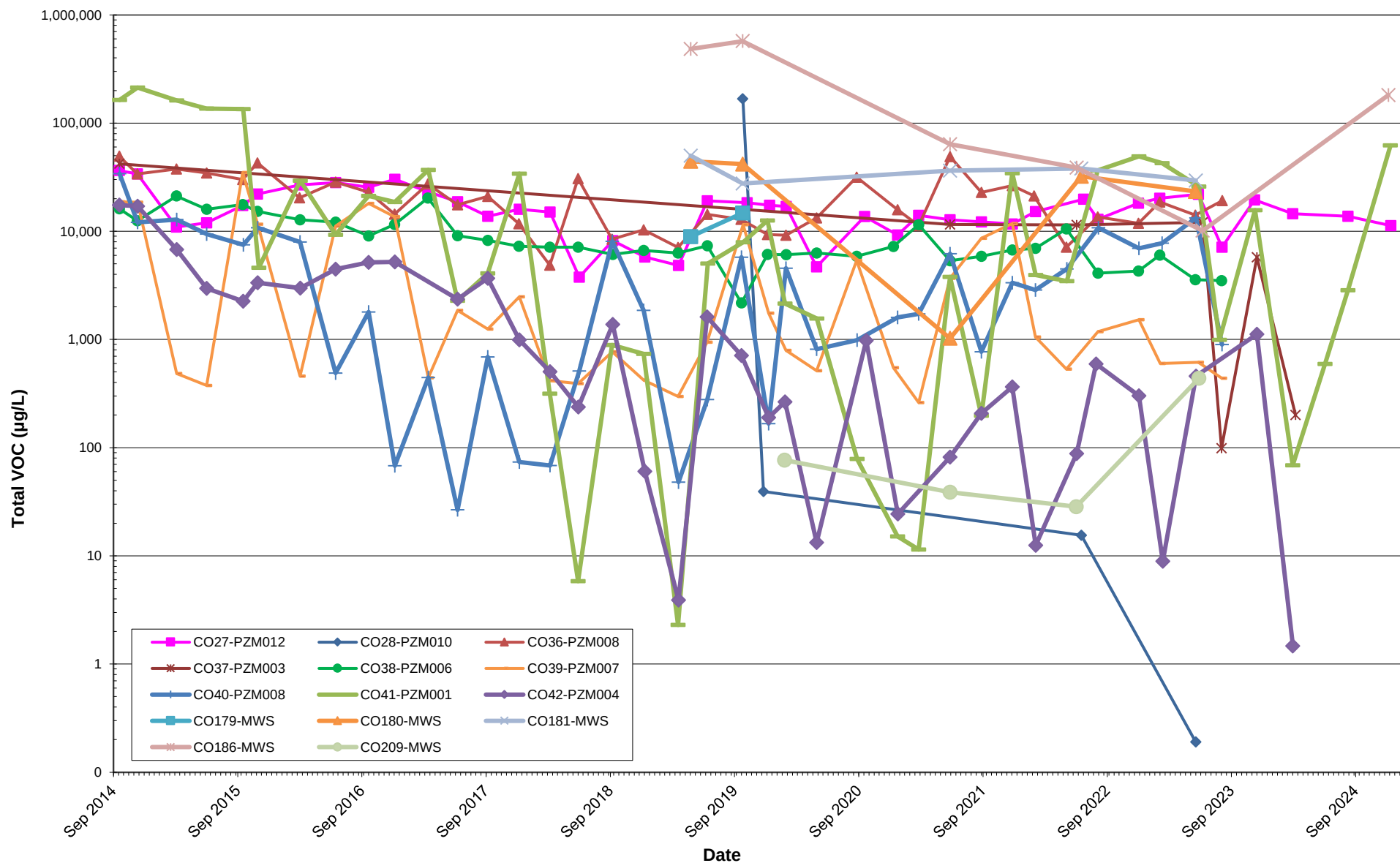
1 inch = 210 feet

0 105 210  
Feet

## Former Coke Oven Area Cell 2 2024 Benzene Concentrations Intermediate Zone

Date: 3/3/2025

**Figure  
C2-4**



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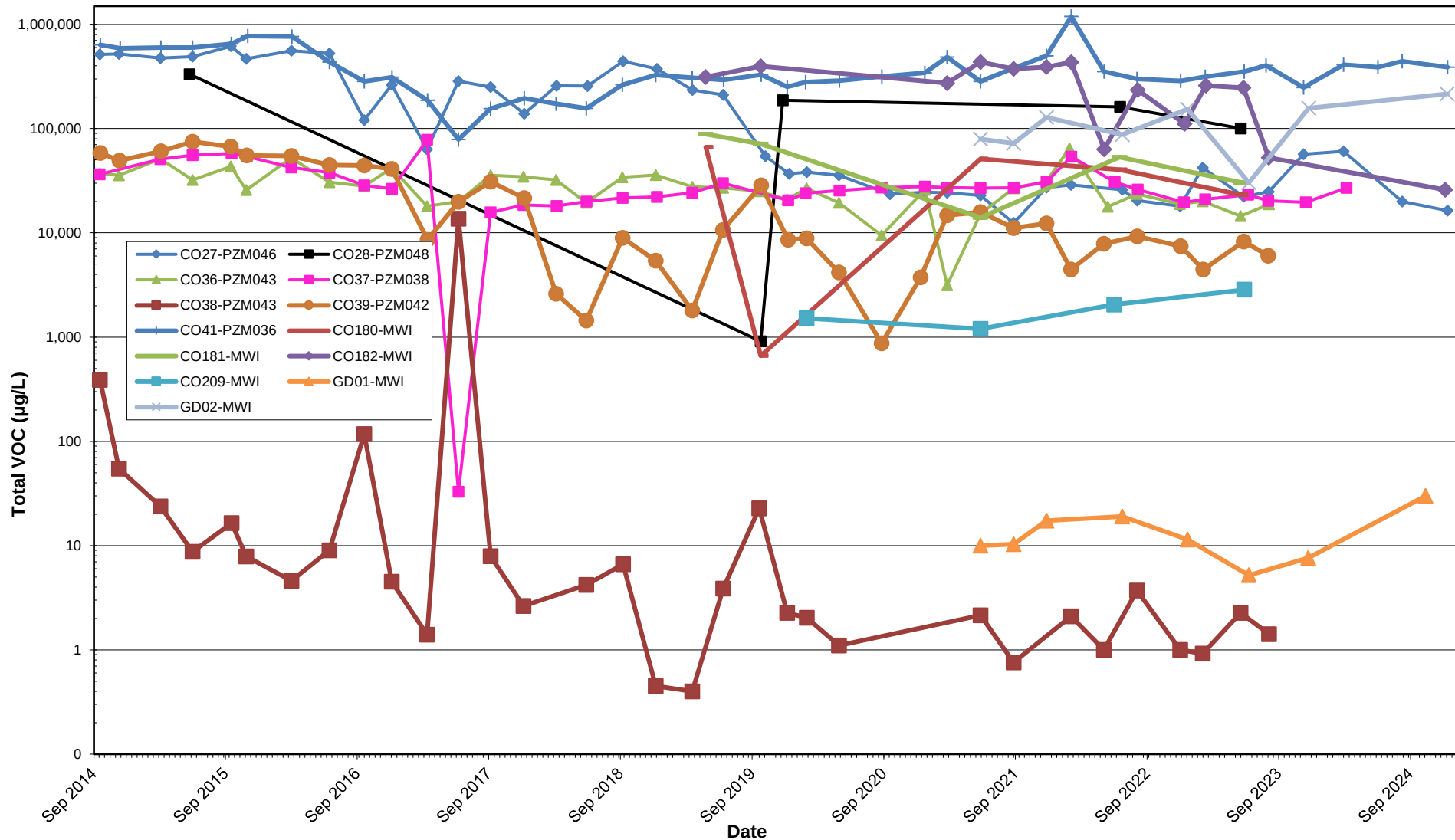
Former Coke Oven Area  
Tradeport Atlantic

Sparrows Point, Maryland

Total VOCs in Groundwater

February 3, 2024

**Figure  
C2-5**



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Former Coke Oven Area  
Tradepoint Atlantic

Sparrows Point, Maryland

**Total VOCs in Groundwater  
Cell 2 Intermediate Zone**

February 3, 2025

**Figure  
C2-6**





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1 inch = 83 feet

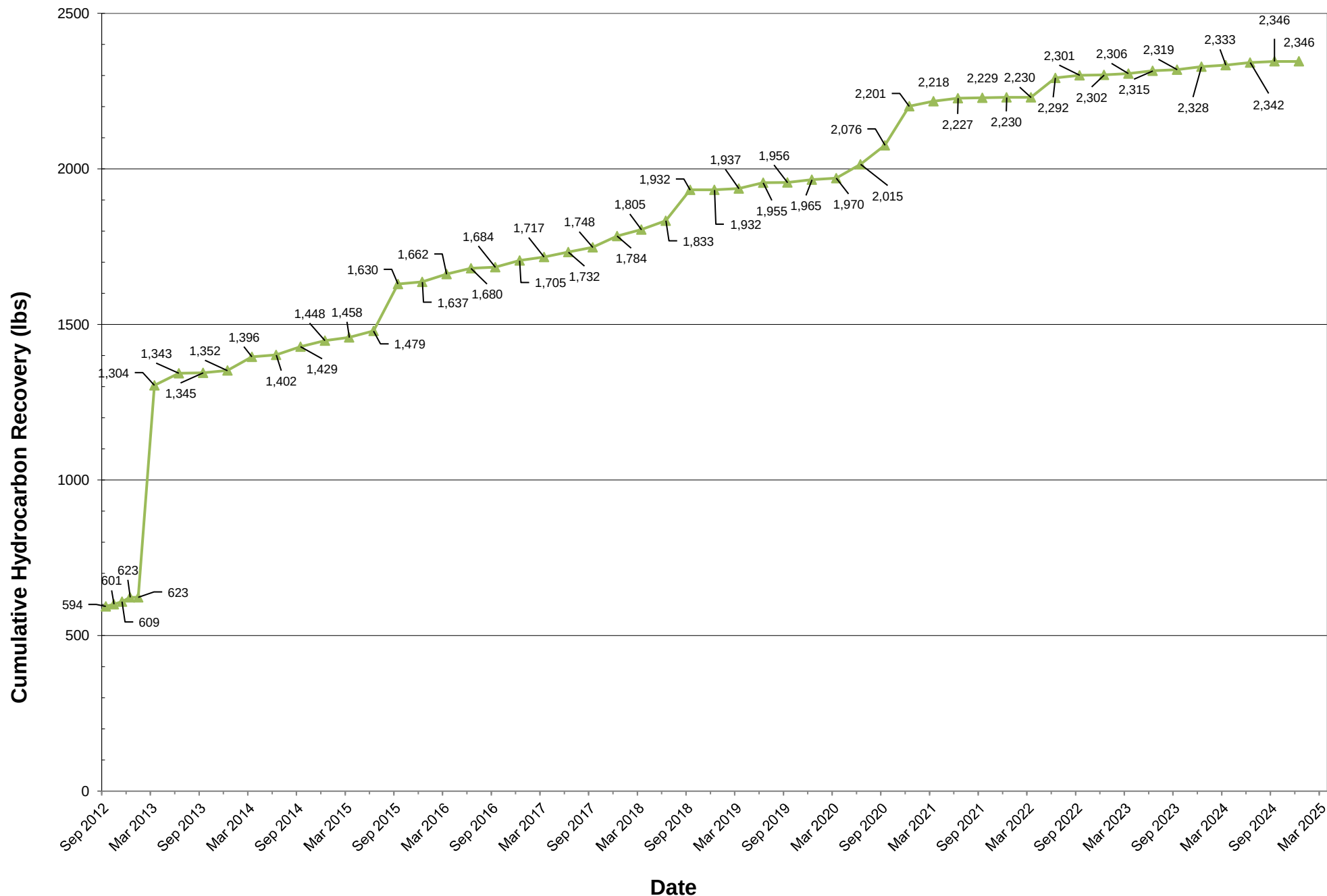
0 40 80  
Feet

Former Coke Oven Area  
Cell 3 System Layout  
AS/SVE

Date: 2/4/2025

**Figure  
C3-1**





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Tradepoint Atlantic

Sparrows Point, Maryland

**Cumulative Hydrocarbon Recovery (lbs)  
Cell 3**

February 4, 2025

**Figure  
C3-2**



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1 inch = 75 feet

0 37.5 75  
Feet

**Former Coke Oven Area**  
**Cell 3 Q2 Benzene Concentrations**  
**Shallow Zone**  
Date: 3/3/2025

**Figure**  
**C3-3**





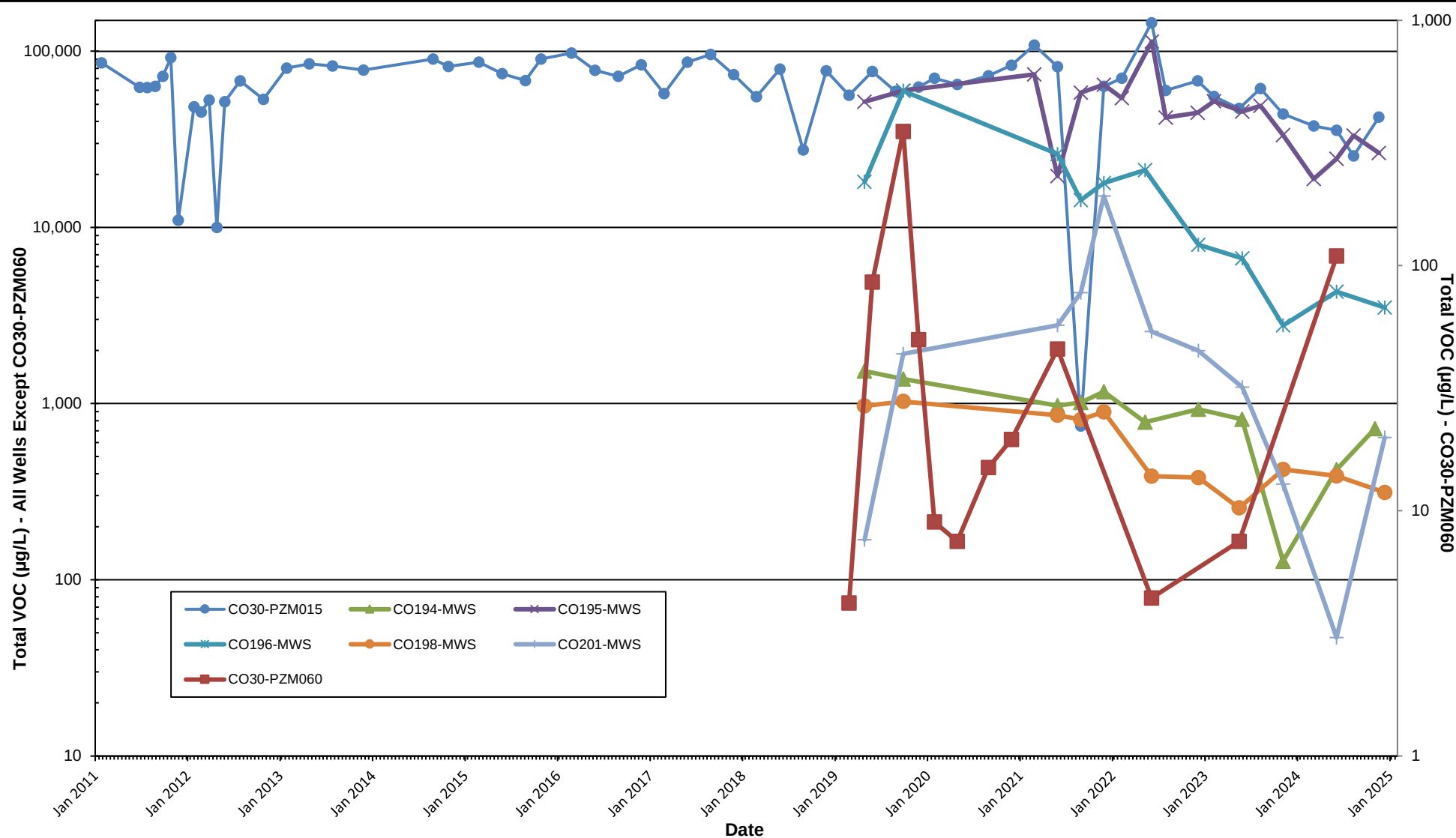
**ARM Group LLC**  
Engineers and Scientists

1 inch = 75 feet

0 37.5 75  
Feet

**Former Coke Oven Area**  
**Cell 3 Q4 Benzene Concentrations**  
**Shallow Zone**  
Date: 3/3/2025

**Figure**  
**C3-4**



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Former Coke Oven Area  
Tradeport Atlantic

Sparrows Point, Maryland

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

February 4, 2025

**Figure  
C3-5**





**LEGEND**

 Completed Excavation Boundary

 Proposed Excavation Boundary

|                                                                                                                                                                                                                                    |                                              |                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|------------------------------|
| <b>Former Coke Oven Area - Cell 4</b><br><b>Completed Excavation Boundary</b><br>January 22, 2024                                                                                                                                  |                                              | <b>Figure</b><br><b>C4-1</b> |
| <br><br><b>ARM Group LLC</b><br>Engineers and Scientists | Tradepoint Atlantic<br>Sparrows Point        |                              |
|                                                                                                                                                                                                                                    | Baltimore County, MD<br>ARM Project 20010210 |                              |

0 10 20 40 Feet

Source: E





## Legend

-  Shallow Monitoring Well
-  Dual-Phase Extraction Well
-  Re-injection Well
-  Vapor Collection Trench



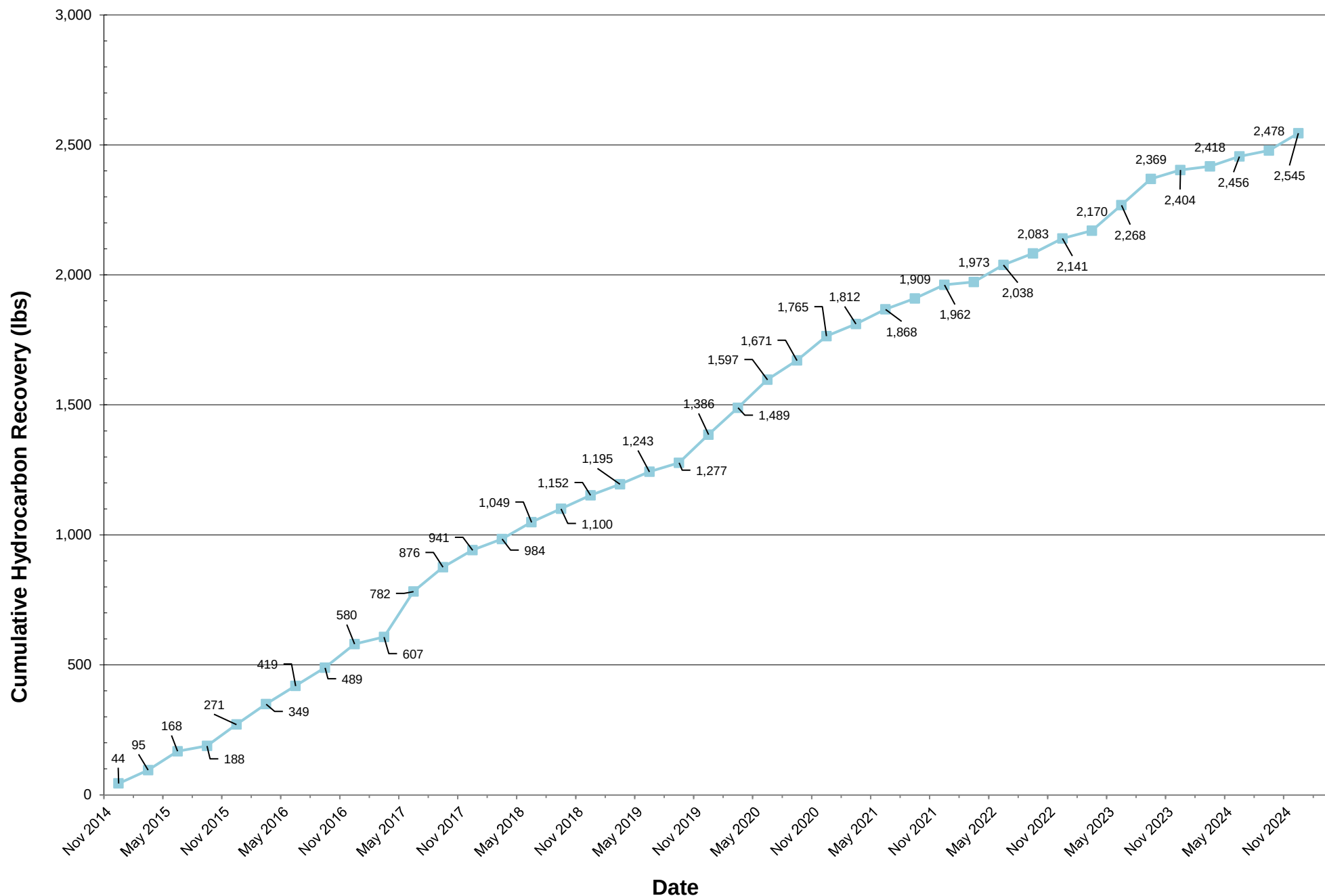
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Engineers and Scientists

1 inch = 160 feet

0 75 150  
Feet

Former Coke Oven Area  
Cell 5 System Layout  
DPE System  
Date: 3/4/2025

**Figure  
C5-1**



Date



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Engineers and Scientists

Former Coke Oven Area  
Tradeport Atlantic

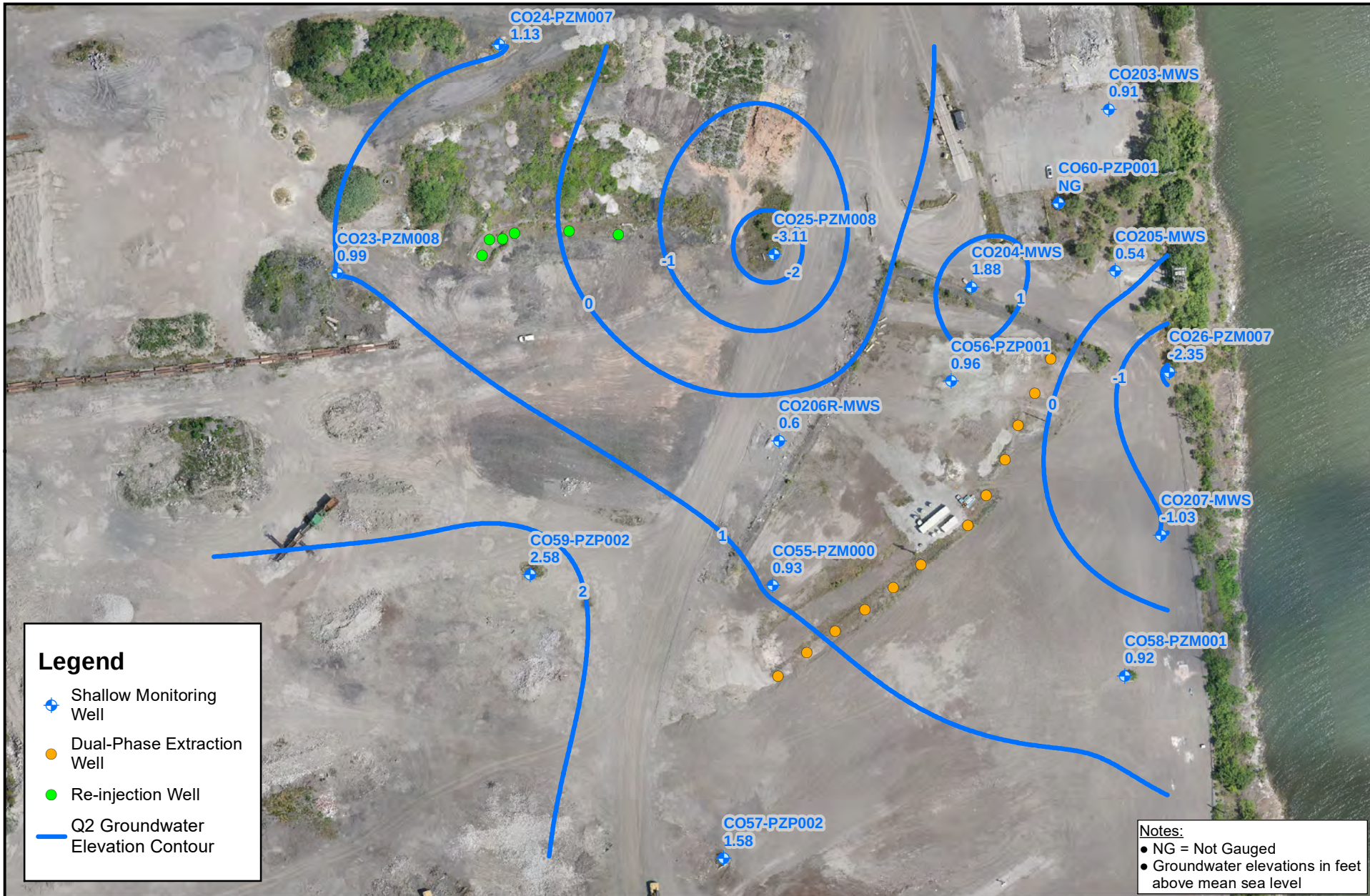
Sparrows Point, Maryland

**Cumulative Hydrocarbon Recovery (lbs)**  
**Cell 5 - DPE System**

February 4, 2025

**Figure**  
**C5-2**





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1 inch = 160 feet

0 75 150  
Feet

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

Date: 2/14/2025

**Figure**  
**C5-3**





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1 inch = 160 feet

0 75 150  
Feet

**Former Coke Oven Area**  
**Cell 5 Q1 Naphthalene Concentrations**  
**Shallow Zone**

Date: 2/13/2025

**Figure**  
**C5-4**





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1 inch = 160 feet

0 75 150  
Feet

**Former Coke Oven Area**  
**Cell 5 Q2 Naphthalene Concentrations**  
**Shallow Zone**  
Date: 2/13/2025

**Figure**  
**C5-5**





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1 inch = 160 feet

0 75 150  
Feet

**Former Coke Oven Area**  
**Cell 5 Q3 Naphthalene Concentrations**  
**Shallow Zone**

Date: 2/13/2025

**Figure**  
**C5-6**





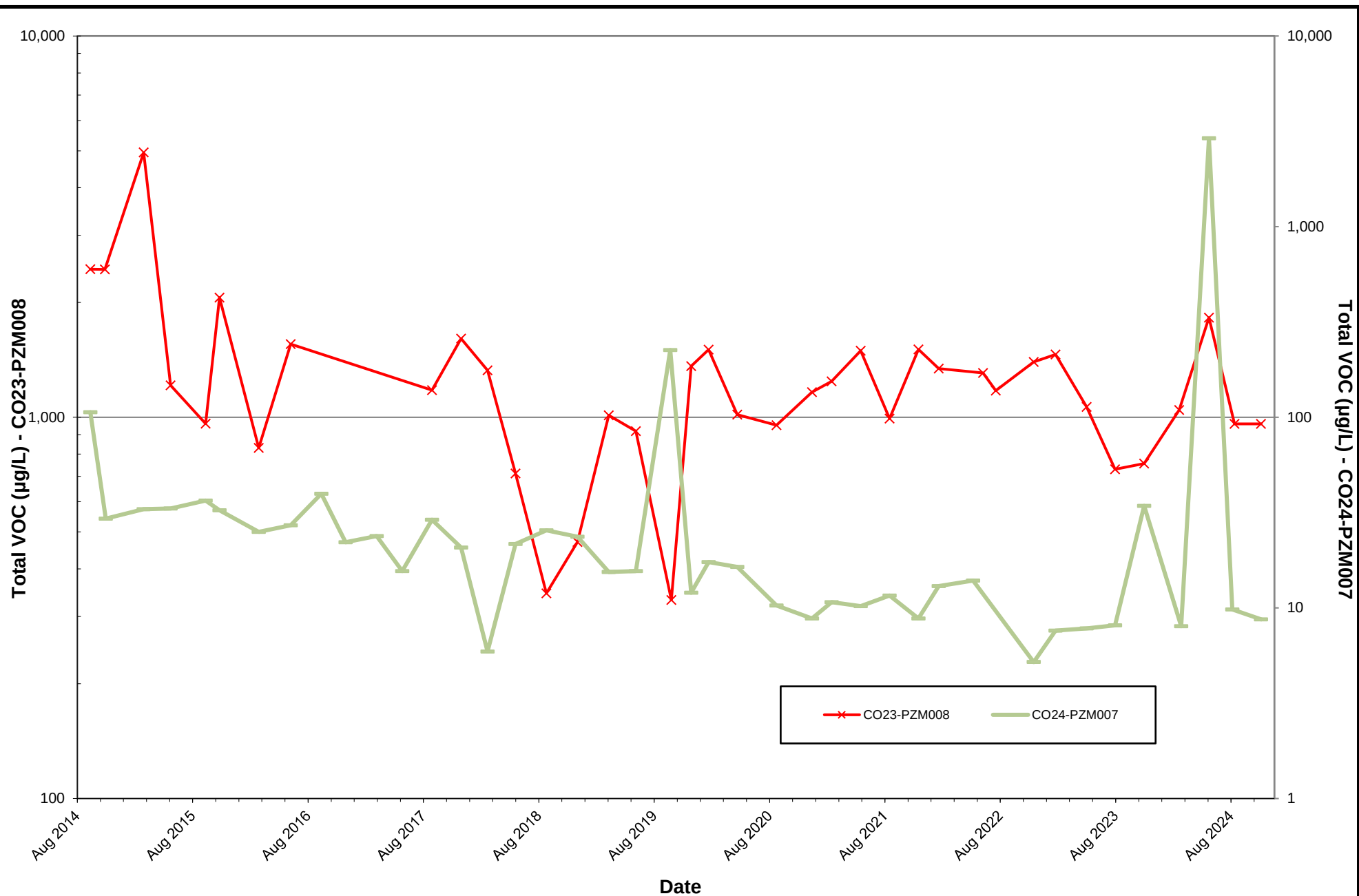
**ARM Group LLC**  
Engineers and Scientists

1 inch = 160 feet

0 75 150  
Feet

**Former Coke Oven Area**  
**Cell 5 Q4 Naphthalene Concentrations**  
**Shallow Zone**  
Date: 2/13/2025

**Figure**  
**C5-7**



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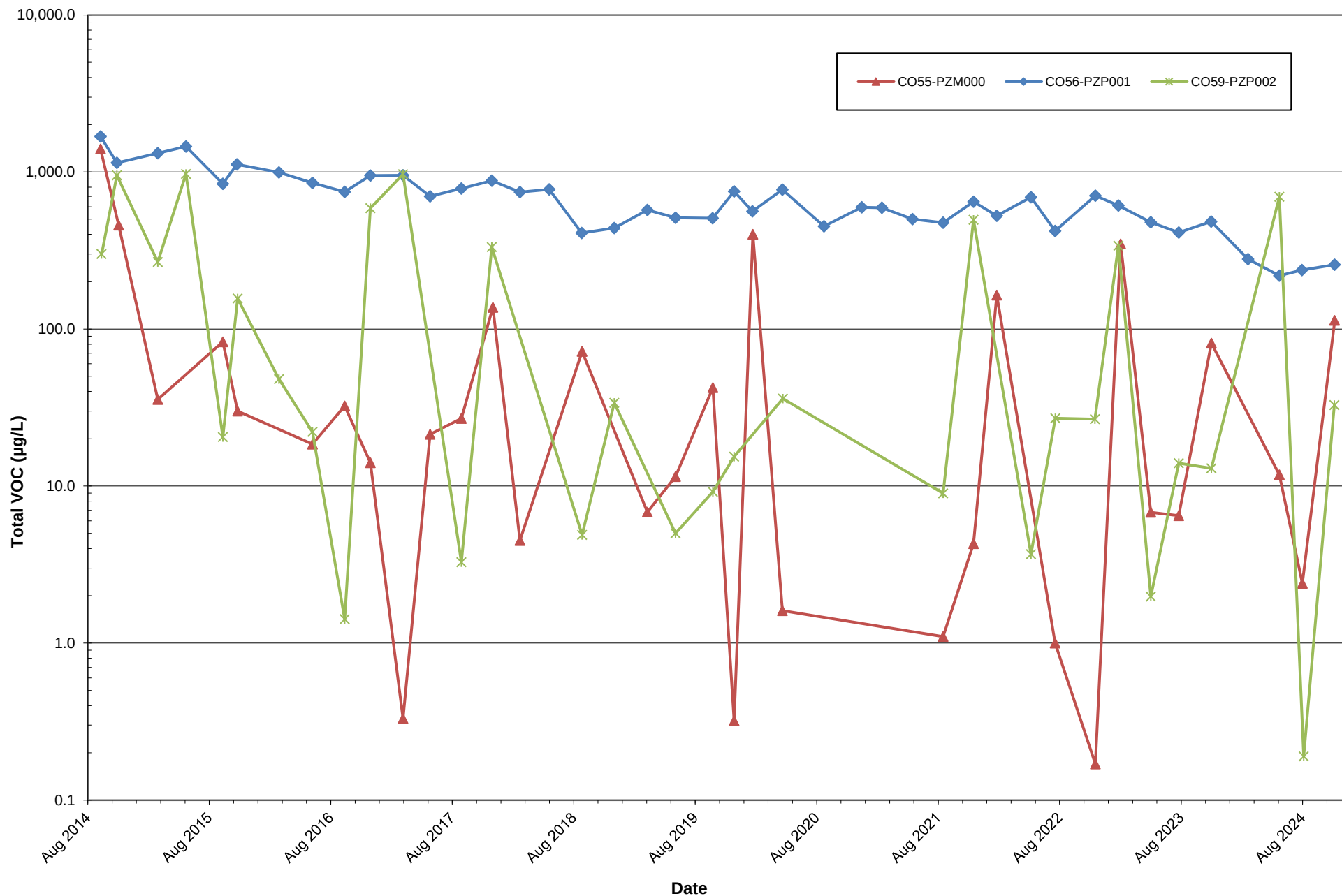
Former Coke Oven Area  
Tradepoint Atlantic

Sparrows Point, Maryland

## Total VOCs in Groundwater Cell 5 ReInjection-Area Monitoring Wells

February 11, 2025

**Figure  
C5-8**



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Former Coke Oven Area  
Tradepoint Atlantic

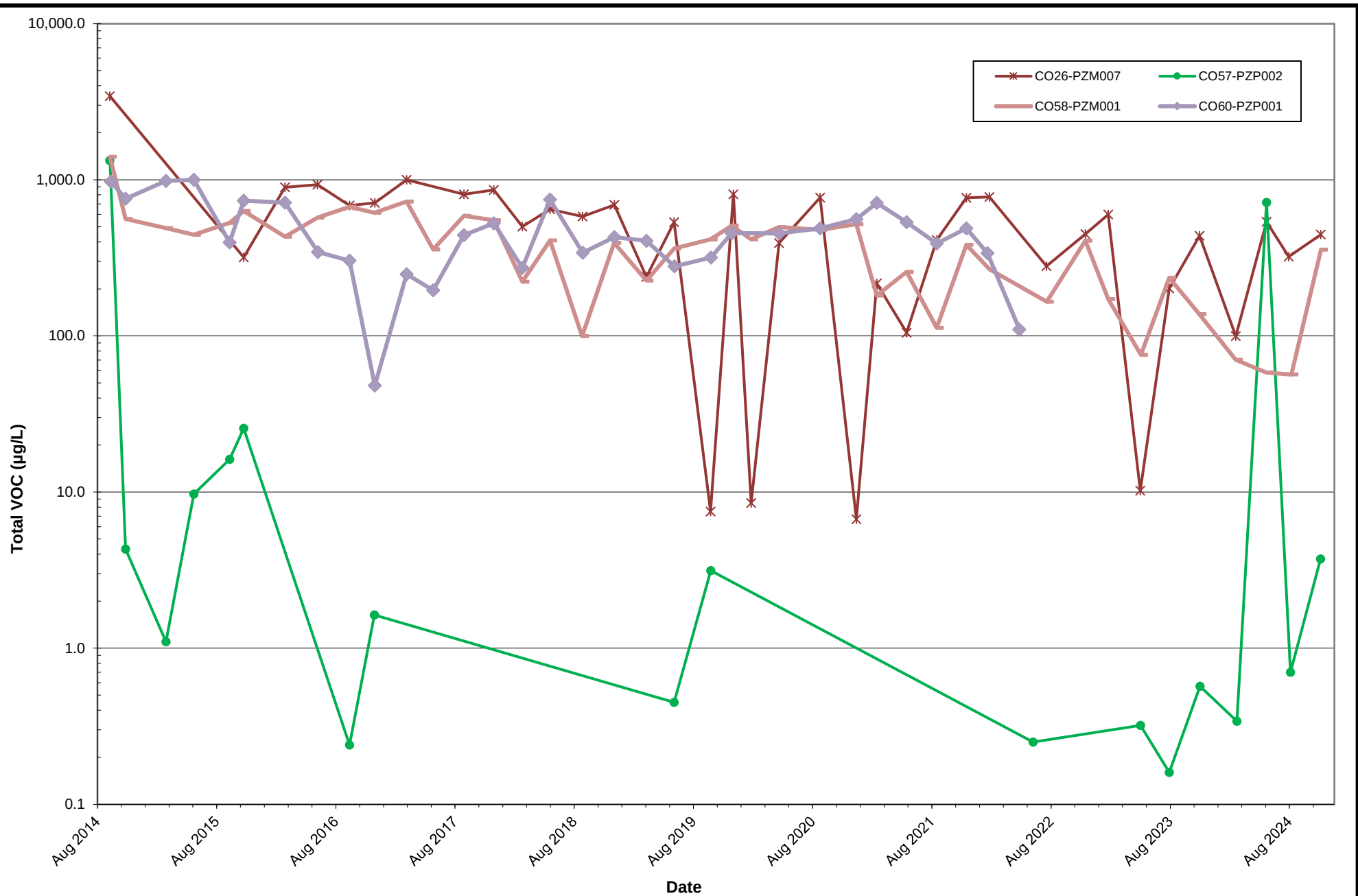
Sparrows Point, Maryland

## Total VOCs in Groundwater Cell 5 Extraction-Area Monitoring Wells

February 11, 2025

**Figure  
C5-9**





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Former Coke Oven Area  
Tradepoint Atlantic

Sparrows Point, Maryland

## Total VOCs in Groundwater Cell 5 Perimeter Monitoring Wells

February 11, 2025

**Figure  
C5-10**



P:\Enviroment\Group\Coke Oven\GIS\Coke Oven 8.5x11 (Cell6 NAPL).mxd

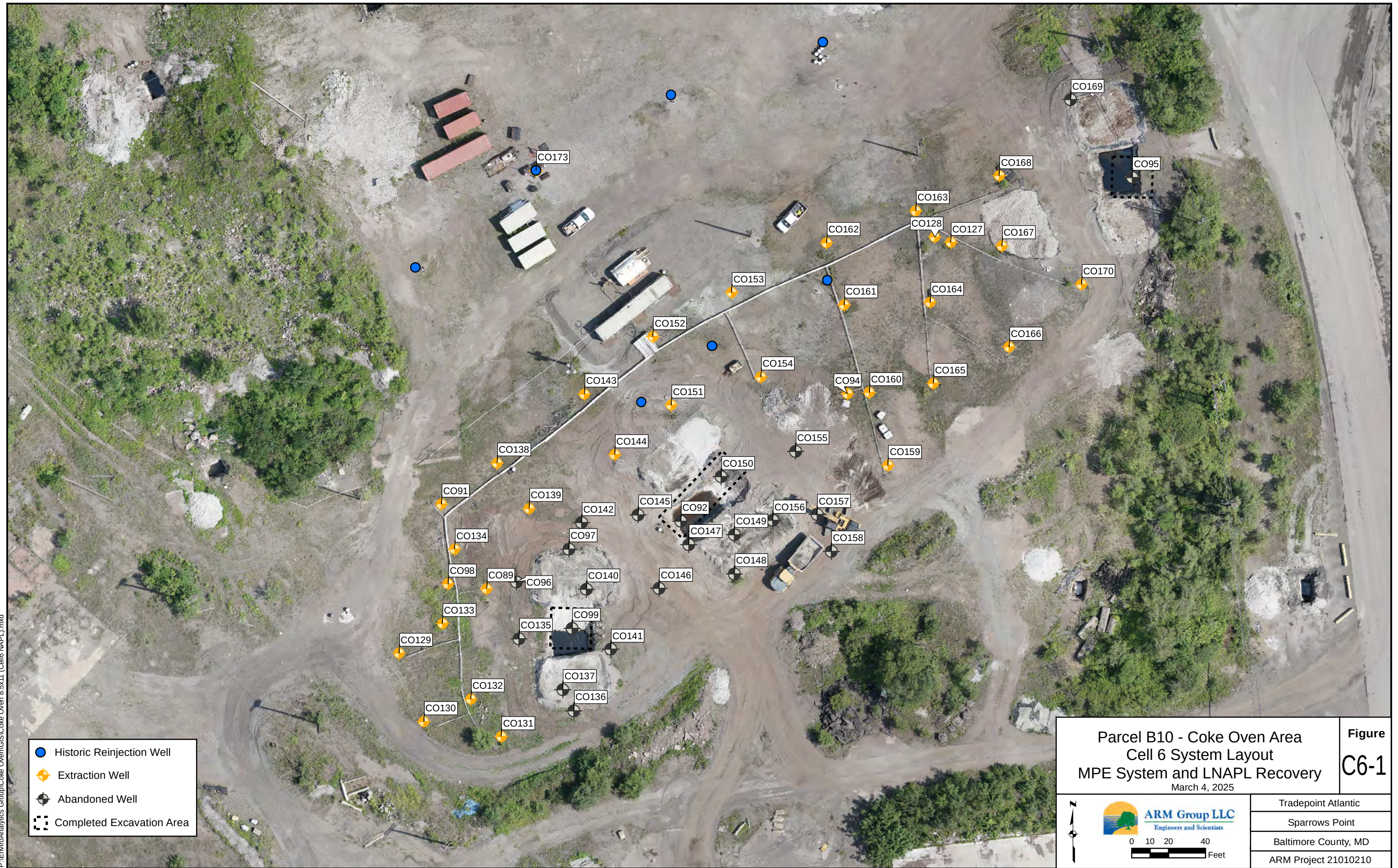
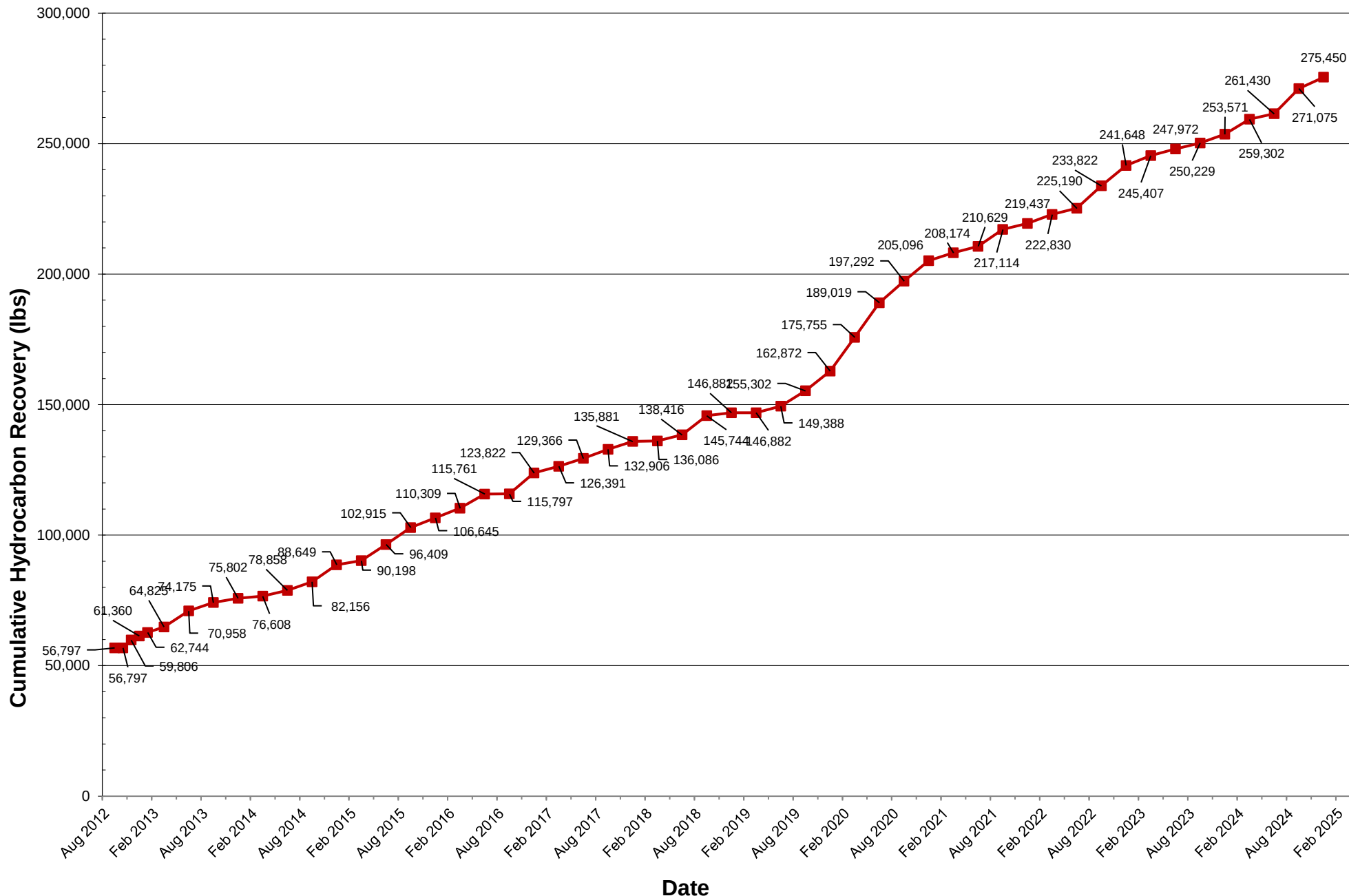


Figure  
C6-1





**ARM Group LLC**  
Engineers and Scientists

Former Coke Oven Area  
Tradeport Atlantic

Sparrows Point, Maryland

**Cumulative Hydrocarbon Recovery (lbs)**  
**Cell 6**

February 4, 2025

**Figure**  
**C6-2**







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## TABLES

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

**Cell 1 2024 Estimated Hydrocarbon Recovery**

| Parameter                                           | Units                    | Q1         | Q2         | Q3         | Q4           | Total/Average |
|-----------------------------------------------------|--------------------------|------------|------------|------------|--------------|---------------|
|                                                     |                          | 1/1 - 3/31 | 4/1 - 6/30 | 7/1 - 9/30 | 10/1 - 12/31 | 1/1 - 12/31   |
| Average Flow Rate (a)                               | standard cubic feet/min. | 385        | 384        | 380        | 266          |               |
| Average Concentrations                              | ug/L                     | 8.7        | 15.9       | 0.13       | 0.53         |               |
| Estimated Hydrocarbon Destruction/Removal Rate (b)  | pounds/hour              | 0.0125     | 0.0229     | 0.000185   | 0.000527     |               |
|                                                     | pounds/day               | 0.2995     | 0.5485     | 0.0044     | 0.0127       |               |
| Total VGAC Operating Time                           | hours                    | 2,163.75   | 2,111.00   | 636.00     | 640.50       | 5,551.25      |
| Overall VGAC Operational Time                       | %                        | 99.1%      | 96.7%      | 28.8%      | 29.0%        | 63.2%         |
| Estimated Total Hydrocarbons Destroyed/Removed      | pounds                   | 27.0       | 48.2       | 0.12       | 0.34         | 75.7          |
| Calculated Hydrocarbon Destruction/Removal Rate (c) | pounds / day             |            |            |            |              | 0.327         |

**Cell 1 Cumulative Summary of Estimated Hydrocarbon Recovery**

*August 3, 2010 - December 31, 2024*

| Parameter                                           | Units       | Quantity |
|-----------------------------------------------------|-------------|----------|
| Total VGAC Operating Time                           | hours       | 62,772   |
| Overall VGAC Operational Time                       | %           | 49.7%    |
| Estimated Total Hydrocarbons Destroyed/Removed      | pounds      | 16,735   |
| Calculated Hydrocarbon Destruction/Removal Rate (c) | pounds/hour | 0.2666   |

Notes:

- (a) Flow rates are calculated using the recorded SVE flow temperature.
- (a) Based on average flow rate and average concentration for each quarter.
- (c) Based on total amount of hydrocarbons removed and total operational time.



Table C1-2 - Cell 1 VGAC Influent Analytical Results

| Month                   |       | January   | February | March    | April    | May      | June     | July      | August  | September | October | November   | December |
|-------------------------|-------|-----------|----------|----------|----------|----------|----------|-----------|---------|-----------|---------|------------|----------|
| Analyte (8260 Organics) | Units | 1/10/2024 | 2/7/2024 | 3/4/2024 | 4/3/2024 | 5/1/2024 | 6/3/2024 | 7/23/2024 | OFFLINE | OFFLINE   | OFFLINE | 11/27/2024 | OFFLINE  |
| Benzene                 | ug/L  | 16.8      | 4.8      | 3.9      | 40.8     | 3.89     | 0.1      | 0.13      | NS      | NS        | NS      | 0.25       | NS       |
| Toluene                 | ug/L  | 0.48      | ND       | ND       | 1.17     | 1.0      | ND       | ND        | NS      | NS        | NS      | 0.16       | NS       |
| m- & p-Xylenes          | ug/L  | ND        | ND       | ND       | ND       | 0.69     | ND       | ND        | NS      | NS        | NS      | 0.12       | NS       |
| Total Volatile Organics | ug/L  | 17.3      | 4.80     | 3.90     | 41.97    | 5.58     | 0.10     | 0.13      | NS      | NS        | NS      | 0.53       | NS       |

**Notes:**  
**BOLD** = Analyte detected  
ug/L = micro grams per liter  
*ND* = Non-detect  
*NS* = not sampled, system offline at sample date  
\*Analytes with no detections were not included within this table.

**Table C1-3**  
**Cell 1 Monitoring Well Groundwater Elevations**

| Well ID   | Top of PVC Elevation (ft AMSL) | Aquifer | Well Depth (ft bgs) | Q1                            |                                 | Q2                            |                                 | Q3                            |                                 | Q4                            |                                 |
|-----------|--------------------------------|---------|---------------------|-------------------------------|---------------------------------|-------------------------------|---------------------------------|-------------------------------|---------------------------------|-------------------------------|---------------------------------|
|           |                                |         |                     | Depth to Groundwater (ft bgs) | Groundwater Elevation (ft AMSL) | Depth to Groundwater (ft bgs) | Groundwater Elevation (ft AMSL) | Depth to Groundwater (ft bgs) | Groundwater Elevation (ft AMSL) | Depth to Groundwater (ft bgs) | Groundwater Elevation (ft AMSL) |
| CO93-PZM  | 12.12                          | Shallow | 20.00               | 10.25                         | 1.87                            | 11.82                         | 0.30                            | 10.43                         | 1.69                            | 11.44                         | 0.68                            |
| CO190-MWS | 15.45                          | Shallow | 20.00               | 13.84                         | 1.61                            | 14.30                         | 1.15                            | 14.08                         | 1.37                            | 14.74                         | 0.71                            |
| CO191-MWS | 13.48                          | Shallow | 20.00               | 12.19                         | 1.29                            | 12.45                         | 1.03                            | 12.37                         | 1.11                            | -                             | -                               |

**Notes:**

PVC = Polyvinyl chloride piping

AMSL = Above mean sea level



**Table C1-4**  
**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                     |       |        | 3/12/24  | 6/18/24 | 8/13/24 | 12/10/24 | 3/12/24   | 6/20/24 | 8/14/24 | 12/17/24 | 6/7/24    |
| Volatile Organic Compound      | Units | PAL    |          |         |         |          |           |         |         |          |           |
| Benzene                        | µg/L  | 5      | 140,000  | 200,000 | 170,000 | 130,000  | 270,000   | 550,000 | 96,000  | 290,000  | 34,000    |
| Ethylbenzene                   | µg/L  | 700    | 1,000    | 1,400   | 1,200   | 1,200    | ND        | ND      | ND      | ND       | 110       |
| Toluene                        | µg/L  | 1,000  | 50,000   | 65,000  | 59,000  | 40,000   | 16,000    | 35,000  | 5,300   | 14,000   | 2,700     |
| Xylenes                        | µg/L  | 10,000 | 12,000   | 17,000  | 15,000  | 13,000   | ND        | ND      | ND      | ND       | 900       |
| Total Volatile Organics        | µg/L  |        | 203,000  | 283,400 | 245,200 | 184,200  | 286,000   | 585,000 | 101,300 | 304,000  | 37,710    |
| Semi-Volatile Organic Compound | Units | PAL    |          |         |         |          |           |         |         |          |           |
| Naphthalene                    | µg/L  | 0.12   | 1,700    | 1,900   | 1,700   | 1,700    | ND        | ND      | 320 J   | ND       | 190 J     |

Notes:

**Bold = Analyte Detected**

**Red = Exceedence of groundwater Project Action Limit (PAL)**

µg/L = micrograms per liter

ND = Not Detected above the reporting limit

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

| Parameter                      | Units   | Q1<br>1/1 - 3/31 | Q2<br>4/1 - 6/30 | Q3<br>7/1 - 9/30 | Q4<br>10/1 - 12/31 | Total<br>1/1 - 12/31 |
|--------------------------------|---------|------------------|------------------|------------------|--------------------|----------------------|
| Total Discharge                | gallons | 0                | 0                | 0                | 191,309            | 191,309              |
| Total Operating Time           | hours   | 0                | 0                | 0                | 746                | 746                  |
| Overall Operational Time       | %       | 0.0%             | 0.0%             | 0.0%             | 34.0%              | 8.5%                 |
|                                |         |                  |                  |                  |                    |                      |
| Extracted Total Concentrations | lbs/gal | OFFLINE          | OFFLINE          | OFFLINE          | 2.09E-03           | 2.09E-03             |
| Effluent Total Concentrations  | lbs/gal | OFFLINE          | OFFLINE          | OFFLINE          | 2.96E-06           | 2.96E-06             |
|                                |         |                  |                  |                  |                    |                      |
| Extracted Hydrocarbons         | lbs     | OFFLINE          | OFFLINE          | OFFLINE          | 400                | 400                  |
| Effluent Hydrocarbons          | lbs     | OFFLINE          | OFFLINE          | OFFLINE          | 0.57               | 0.57                 |
|                                |         |                  |                  |                  |                    |                      |
| Total Hydrocarbons Removed     | lbs     | OFFLINE          | OFFLINE          | OFFLINE          | 400                | 400                  |



**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 |
|-----------------------------|------------------------------------------|---------------------|------------|-------------|-------------------------|-----------------------|------------------|--------------|---------------|
| CO03-PZM005                 | -----                                    | Hollow Stem Auger   | 562990.712 | 1455398.333 | 13.53                   | Steel Riser           | 17.00            | 7.00         | 10.00         |
| CO27-PZM012                 | -----                                    | Hollow Stem Auger   | 563239.965 | 1454916.917 | 5.12                    | Steel Riser           | 15.00            | 5.00         | 10.00         |
| CO27-PZM046                 | -----                                    | Hollow Stem Auger   | 563239.958 | 1454913.372 | 5.17                    | Steel Riser           | 49.00            | 39.00        | 10.00         |
| CO28-PZM010                 | -----                                    | Unknown             | 562891.927 | 1454280.619 | 12.34                   | Steel Riser           | Unknown          | Unknown      | Unknown       |
| CO28-PZM048                 | -----                                    | 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         |
| CO121-PZM                   | CO121-SB075                              | Unknown             | 563301.930 | 1455356.120 | 11.87                   | Steel Riser           | 14.00            | Unknown      | Unknown       |
| CO177-MWS                   | COK-MWS                                  | Hollow Stem Auger   | 563234.958 | 1454751.722 | 6.62                    | Steel Riser           | 15.00            | 5.00         | 10.00         |
| CO177-MWI                   | COK-MWI                                  | Hollow Stem Auger   | 563234.629 | 1454749.248 | 6.83                    | Steel Riser           | 50.00            | 30.00        | 20.00         |
| CO178-MWI                   | COL-MWI                                  | Hollow Stem Auger   | 563246.333 | 1454911.001 | 7.56                    | Steel Riser           | 50.00            | 30.00        | 20.00         |
| CO179-MWS                   | COM-MWS                                  | Hollow Stem Auger   | 563262.590 | 1455064.510 | 8.11                    | Steel Riser           | 15.00            | 5.00         | 10.00         |
| CO179-MWI                   | COM-MWI                                  | Hollow Stem Auger   | 563247.848 | 1454916.386 | 7.43                    | Steel Riser           | 50.00            | 30.00        | 20.00         |
| 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         |
| CO184-MWI                   | COR-MWI                                  | Hollow Stem Auger   | 562836.854 | 1454628.124 | 11.65                   | Steel Riser           | 37.00            | 22.00        | 15.00         |
| CO186-MWS                   | COT-MWS                                  | Hollow Stem Auger   | 562911.800 | 1455128.850 | 11.74                   | Steel Riser           | 20.00            | 5.00         | 15.00         |
| CO188-MWI                   | COV-MWI                                  | Hollow Stem Auger   | 562760.829 | 1455004.678 | 12.20                   | Steel Riser           | 50.00            | 30.00        | 20.00         |
| CO209-MWS                   | -----                                    | Hollow Stem Auger   | 562600.385 | 1453757.934 | 10.70                   | Steel Riser           | 25.00            | 15.00        | 10.00         |
| CO209-MWI                   | -----                                    | Hollow Stem Auger   | 562605.794 | 1453757.191 | 10.43                   | Steel Riser           | 50.00            | 40.00        | 10.00         |
| GD01-MWI                    | -----                                    | Hollow Stem Auger   | 563597.259 | 1454233.229 | 7.30                    | Steel Riser           | 50.00            | 40.00        | 10.00         |
| GD02-MWI                    | -----                                    | 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 AMSL) | Aquifer | Well Depth (ft bgs) | Q1                             |                                 |                     | Q2                             |                                 |                     | Q3                             |                                 |                     | Q4                             |                                 |                     |
|-------------|--------------------------------|---------|---------------------|--------------------------------|---------------------------------|---------------------|--------------------------------|---------------------------------|---------------------|--------------------------------|---------------------------------|---------------------|--------------------------------|---------------------------------|---------------------|
|             |                                |         |                     | Depth to Groundwater (ft bTOC) | Groundwater Elevation (ft AMSL) | NAPL Thickness (ft) | Depth to Groundwater (ft bTOC) | Groundwater Elevation (ft AMSL) | NAPL Thickness (ft) | Depth to Groundwater (ft bTOC) | Groundwater Elevation (ft AMSL) | NAPL Thickness (ft) | Depth to Groundwater (ft bTOC) | Groundwater Elevation (ft AMSL) | NAPL Thickness (ft) |
| CO03-PZM005 | 13.53                          | S       | 17.00               | 14.29                          | -0.76                           | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  |
| CO27-PZM012 | 5.12                           | S       | 17.00               | 4.43                           | 0.69                            | --                  | 3.53                           | 1.59                            | --                  | 3.53                           | 1.59                            | --                  | 4.52                           | 0.60                            | --                  |
| CO27-PZM046 | 5.17                           | I       | 50.00               | 6.77                           | -1.60                           | --                  | 6.89                           | -1.72                           | --                  | 6.89                           | -1.72                           | --                  | 6.79                           | -1.62                           | --                  |
| CO28-PZM010 | 12.34                          | S       | 22.00               | 11.35                          | 0.99                            | --                  | 11.63                          | 0.71                            | --                  | 11.63                          | 0.71                            | --                  | NM                             | --                              | --                  |
| CO28-PZM048 | 12.69                          | I       | 56.00               | 11.80                          | 0.89                            | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  |
| CO36-PZM008 | 6.94                           | S       | 15.00               | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  |
| CO36-PZM043 | 6.92                           | I       | 50.00               | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  |
| CO37-PZM003 | 12.34                          | S       | 15.00               | 10.82                          | 1.52                            |                     | NM                             | --                              | --                  | NM                             | --                              |                     | NM                             | --                              | --                  |
| CO37-PZM038 | 12.12                          | I       | 50.00               | 11.85                          | 0.27                            | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  |
| CO38-PZM006 | 6.75                           | S       | 13.00               | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  |
| CO38-PZM043 | 6.65                           | I       | 50.00               | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  |
| CO39-PZM007 | 7.75                           | S       | 15.00               | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  |
| CO39-PZM042 | 7.91                           | I       | 50.00               | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  |
| CO40-PZM008 | 7.47                           | S       | 15.00               | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  |
| CO41-PZM001 | 13.57                          | S       | 15.00               | 12.49                          | 1.08                            | --                  | 12.47                          | 1.1                             | --                  | 12.47                          | 1.10                            | --                  | 16.48                          | -2.91                           | --                  |
| CO41-PZM036 | 13.60                          | I       | 50.00               | 13.10                          | 0.50                            | --                  | 13.2                           | 0.4                             | --                  | 13.22                          | 0.38                            | --                  | 16.18                          | -2.58                           | --                  |
| CO42-PZM004 | 10.83                          | S       | 15.00               | 7.02                           | 3.81                            | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  |
| CO121-PZM   | 11.87                          | S       | 14.00               | 10.65                          | 1.22                            | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  |
| CO122-PZM   | 19.42                          | S       | 22.00               | 12.58                          | 6.84                            | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  |
| CO177-MWS   | 6.62                           | S       | 15.00               | 5.68                           | 0.94                            | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  |
| CO177-MWI   | 6.83                           | I       | 50.00               | 8.17                           | -1.34                           | --                  | 7.2                            | -0.37                           | --                  | 7.41                           | -0.58                           | --                  | NM                             | --                              | --                  |
| CO178-MWS   |                                | S       |                     | 6.40                           | -6.40                           |                     | NM                             | --                              |                     | NM                             | --                              |                     | NM                             | --                              |                     |
| CO178-MWI   | 7.56                           | I       | 50.00               | 8.05                           | -0.49                           | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  |
| CO179-MWS   | 8.11                           | S       | 15.00               | 7.04                           | 1.07                            | --                  | NM                             | --                              | --                  | NM                             | --                              |                     | NM                             | --                              | --                  |
| CO179-MWI   | 7.43                           | I       | 50.00               | 14.27                          | -6.84                           | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  |
| CO180-MWS   | 12.01                          | S       | 15.00               | 11.44                          | 0.57                            | --                  | NM                             | --                              | --                  | 11.49                          | 0.52                            | --                  | NM                             | --                              | --                  |
| CO180-MWI   | 11.99                          | I       | 50.00               | 11.33                          | 0.66                            | --                  | NM                             | --                              | --                  | 11.37                          | 0.62                            | --                  | NM                             | --                              | --                  |
| CO181-MWS   | 12.70                          | S       | 15.00               | 11.78                          | 0.92                            | --                  | NM                             | --                              | --                  | 12.12                          | 0.58                            | --                  | NM                             | --                              | --                  |
| CO181-MWI   | 12.68                          | I       | 50.00               | 11.68                          | 1.00                            | --                  | NM                             | --                              | --                  | 12.03                          | 0.65                            | --                  | NM                             | --                              | --                  |
| CO182-MWI   | 7.53                           | I       | 50.00               | N/A                            | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  | 14.46                          | -6.93                           | --                  |
| CO184-MWI   | 11.65                          | I       | 37.00               | 10.76                          | 0.89                            |                     | NM                             | --                              | --                  | 10.95                          | 0.70                            | --                  | 14.51                          | -2.86                           | --                  |
| CO186-MWS   | 11.74                          | S       | 20.00               | 10.71                          | 1.03                            | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  |
| CO188-MWI   | 12.20                          | I       | 50.00               | 11.89                          | 0.31                            | --                  | NM                             | --                              | --                  | 11.81                          | 0.39                            | --                  | 25.95                          | -13.75                          | --                  |
| CO209-MWS   | 10.70                          | S       | 25.00               | 10.01                          | 0.69                            | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  |
| CO209-MWI   | 10.43                          | I       | 50.00               | 9.98                           | 0.45                            | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  |
| GD01-MWI    | 7.30                           | I       | 50.00               | 36.05                          | -28.75                          | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  | 34.92                          | -27.62                          | --                  |
| GD02-MWI    | 8.89                           | I       | 50.00               | 20.00                          | -11.11                          | --                  | NM                             | --                              | --                  | NM                             | --                              | --                  | 19.55                          | -10.66                          | --                  |

Notes:

I = Intermediate zone well

S = Shallow zone well

NAPL = Non-aqueous phase liquid

-- = NAPL not observed

NM = Well not measured. Multiple locations were not gauged due to access restrictions related construction activities in Q1 2024 and then Key Bridge Recovery efforts in Q2 through Q4 2024.

AMSL = Above mean sea level

bTOC = Below top of casing

Table C2-4  
Cell 2 Groundwater Analytical Results

| Sample ID                 |       |        | CO27-PZM012 |           |            | CO37-PZM003 | CO41-PZM001 |          |           |            | CO42-PZM004 | CO186-MWS  |
|---------------------------|-------|--------|-------------|-----------|------------|-------------|-------------|----------|-----------|------------|-------------|------------|
| Quarter                   |       |        | Q1          | Q3        | Q4         | Q1          | Q1          | Q2       | Q3        | Q4         | Q1          | Q4         |
| Event Date                |       |        | 3/4/2024    | 8/13/2024 | 12/17/2024 | 3/12/2024   | 3/4/2024    | 6/7/2024 | 8/13/2024 | 12/16/2024 | 3/4/2024    | 12/10/2024 |
| Volatile Organic Compound | Units | PAL    |             |           |            |             |             |          |           |            |             |            |
| Benzene                   | µg/L  | 5      | 10,000      | 10,000    | 7,900      | 66          | 56          | 550      | 2,000     | 35,000     | 0.78        | 140,000    |
| Ethylbenzene              | µg/L  | 700    | 110         | 120       | 84         | 5.3         | 1.7         | 3.0      | 27        | 760        | ND          | 240 J      |
| Toluene                   | µg/L  | 1,000  | 3,500       | 2,700     | 2,600      | 52          | 7.5         | 29       | 590       | 18,000     | 0.69 J      | 37,000     |
| Xylenes                   | µg/L  | 10,000 | 940         | 920       | 700        | 77          | 3.6 J       | 13 J     | 240       | 8,600      | ND          | 4,200      |
| Total Volatile Organics   | µg/L  |        | 14,550      | 13,740    | 11,284     | 200         | 69          | 595      | 2,857     | 62,360     | 1.47        | 181,440    |

| Semi-Volatile Organic Compound | Units | PAL  |     |     |     |    |        |       |      |     |    |    |
|--------------------------------|-------|------|-----|-----|-----|----|--------|-------|------|-----|----|----|
| Naphthalene                    | µg/L  | 0.12 | 760 | 570 | 450 | 75 | 0.29 J | 3.1 J | 10 J | 330 | ND | ND |

| Sample ID                 |       |        | CO27-PZM046 |           |            | CO37-PZM038 | CO41-PZM036 |          |           |            | CO182-MWI  | GD02-MWI   |
|---------------------------|-------|--------|-------------|-----------|------------|-------------|-------------|----------|-----------|------------|------------|------------|
| Quarter                   |       |        | Q1          | Q3        | Q4         | Q1          | Q1          | Q2       | Q3        | Q4         | Q4         | Q4         |
| Event Date                |       |        | 3/4/2024    | 8/13/2024 | 12/17/2024 | 3/11/2024   | 3/4/2024    | 6/7/2024 | 8/13/2024 | 12/17/2024 | 12/10/2024 | 12/16/2024 |
| Volatile Organic Compound | Units | PAL    |             |           |            |             |             |          |           |            |            |            |
| Benzene                   | µg/L  | 5      | 52,000      | 14,000    | 11,000     | 17,000      | 290,000     | 290,000  | 320,000   | 280,000    | 22,000     | 210,000    |
| Ethylbenzene              | µg/L  | 700    | 280         | 140       | 140        | 230         | 970         | 740 J    | 1,100     | 830 J      | 100        | 460 J      |
| Toluene                   | µg/L  | 1,000  | 6,600       | 4,600     | 4,000      | 7,800       | 100,000     | 84,000   | 100,000   | 90,000     | 2,500      | 3,600      |
| Xylenes                   | µg/L  | 10,000 | 1,800       | 1,200     | 1,200      | 2,000       | 19,000      | 13,000   | 21,000    | 17,000     | 1,300      | 1,400 J    |
| Total Volatile Organics   | µg/L  |        | 60,680      | 19,940    | 16,340     | 27,030      | 409,970     | 387,740  | 442,100   | 387,830    | 25,900     | 215,460    |

| Semi-Volatile Organic Compound | Units | PAL  |     |     |     |       |       |       |    |    |      |       |
|--------------------------------|-------|------|-----|-----|-----|-------|-------|-------|----|----|------|-------|
| Naphthalene                    | µg/L  | 0.12 | 750 | 700 | 840 | 1,300 | 260 J | 580 J | ND | ND | 73 J | 570 J |

Notes:

**Bold = Analyte Detected**

**Red = Exceedance of groundwater Project Action Limit (PAL)**

µg/L = micrograms per liter

ND = Not Detected above the reporting limit

1) Multiple wells were not sampled in accordance with the current sampling frequency due to access restrictions due to construction activities in Q1 2024 and then Key Bridge Recovery efforts in Q2 through Q4 2024. Sampling from the following wells was impacted:

- Annual sampling (Q2 2024) was not conducted from the following wells: CO28-PZM010, CO28-PZM048, CO180-MWS, CO180-MWI, CO181-MWS, CO181-MWI, CO209-MWS and CO209-MWI.
- Quarterly sampling was not conducted from the following wells: CO36-PZM008, CO36-PZM043, CO38-PZM006, CO38-PZM042, CO39-PZM007, CO39-PZM042, CO40-PZM008.
- Quarterly sampling was not conducted in all 4 quarters from the following wells: CO37-PZM003 and CO37-PZM038 (sampled in Q1 2024 only), and CO182-MWI (sampled in Q4 2024 only).



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

| <b>Air Sparge Well Designation</b> | <b>Installation Method</b> | <b>Northing</b> | <b>Easting</b> | <b>Well Depth (ft bgs)</b> | <b>Screen Interval (ft bgs)</b> | <b>Riser Length</b> |
|------------------------------------|----------------------------|-----------------|----------------|----------------------------|---------------------------------|---------------------|
| 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 2024 Estimated Hydrocarbon Recovery**

| Parameter                                           | Units                    | Q1         | Q2         | Q3         | Q4           | Total/Average |
|-----------------------------------------------------|--------------------------|------------|------------|------------|--------------|---------------|
|                                                     |                          | 1/1 - 3/31 | 4/1 - 6/30 | 7/1 - 9/30 | 10/1 - 12/31 | 1/1 - 12/31   |
| Flow Rate (a)                                       | standard cubic feet/min. | 330        | 299        | 314        | 281          |               |
| Average Concentrations                              | ug/L                     | 1.9        | 3.5        | 1.5        | 0.0          |               |
| Estimated Hydrocarbon Destruction/Removal Rate (b)  | pounds/hour              | 0.002      | 0.004      | 0.002      | 0.0          |               |
|                                                     | pounds/day               | 0.056      | 0.094      | 0.041      | 0.0          |               |
| Total VGAC Operating Time                           | hours                    | 2,178      | 2,184      | 2,191      | 2,148        | 8,701         |
| Overall VGAC Operational Time                       | %                        | 99.7%      | 100.0%     | 99.2%      | 97.3%        | 99.0%         |
| Estimated Total Hydrocarbons Destroyed/Removed      | pounds                   | 5.12       | 8.55       | 3.78       | 0.0          | 17.45         |
| Calculated Hydrocarbon Destruction/Removal Rate (c) | pounds / day             |            |            |            |              | 0.048         |

**Cell 3 Cumulative Summary of Estimated Hydrocarbon Recovery**

*June 24, 2011 - December 31, 2024*

| Parameter                                      | Units       | Quantity |
|------------------------------------------------|-------------|----------|
| Total VGAC Operating Time                      | hours       | 71,426   |
| Overall VGAC Operational Time                  | %           | 60.2%    |
| Estimated Total Hydrocarbons Destroyed/Removed | pounds      | 2,346    |
| Estimated Hydrocarbon Destruction/Removal Rate | pounds/hour | 0.0329   |

Notes:

- (a) Flow rates are calculated using the recorded SVE flow temperature.
- (a) Based on average flow rate and average concentration for each quarter.
- (c) Based on total amount of hydrocarbons removed and total operational time.

Table C3-3 - Cell 3 VGAC Influent Analytical Results

| Month                   |       | January  | February | March    | April    | May      | June     | July      | August    | September | October | November   | December   |
|-------------------------|-------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|---------|------------|------------|
| Analyte (8260 Organics) | Units | 1/2/2024 | 2/7/2024 | 3/4/2024 | 4/3/2024 | 5/1/2024 | 6/3/2024 | 7/23/2024 | 8/29/2024 | 9/30/2024 | NS      | 11/27/2024 | 12/30/2024 |
| Acetone                 | ug/L  | ND       | ND       | ND       | ND       | 1.18     | 1.43     | ND        | ND        | ND        | NS      | ND         | ND         |
| Benzene                 | ug/L  | 2.57     | 0.25     | 0.63     | 0.14     | 0.13     | ND       | ND        | ND        | ND        | NS      | ND         | ND         |
| Chloroethane            | ug/L  | 0.7      | ND       | 1.35     | 1.30     | 3.15     | 2.14     | 1.81      | 1.69      | ND        | NS      | ND         | ND         |
| 1,1-Dichloroethane      | ug/L  | ND       | ND       | ND       | ND       | 0.22     | 0.28     | 0.26      | 0.12      | ND        | NS      | ND         | ND         |
| Toluene                 | ug/L  | 0.20     | ND       | ND       | ND       | ND       | ND       | ND        | ND        | ND        | NS      | ND         | ND         |
| Total Volatile Organics | ug/L  | 3.5      | 0.3      | 1.98     | 1.44     | 4.68     | 3.85     | 2.07      | 1.81      | 0.00      | NS      | 0.00       | 0.00       |

**Notes:**  
**BOLD** = Analyte detected  
ug/L = micro grams per liter  
*ND* = Analyte not detected above reporting limit.  
*NS* = not sampled, system offline at sample date  
\*Analytes with no detections were not included within this table.



Table C3-4  
Cell 3 Groundwater Analytical Results

| Sample ID                  |       |        | CO30-PZM015 |          |           |            | CO195-MWS |          |           |            | CO194-MWS |            | CO196-MWS |            |
|----------------------------|-------|--------|-------------|----------|-----------|------------|-----------|----------|-----------|------------|-----------|------------|-----------|------------|
| Quarter                    |       |        | Q1          | Q2       | Q3        | Q4         | Q1        | Q2       | Q3        | Q4         | Q2        | Q4         | Q2        | Q4         |
| Event Date                 |       |        | 3/8/2024    | 6/6/2024 | 8/12/2024 | 11/20/2024 | 3/8/2024  | 6/6/2024 | 8/12/2024 | 11/20/2024 | 6/6/2024  | 12/12/2024 | 6/6/2024  | 12/13/2024 |
| Volatile Organic Compounds | Units | PAL    |             |          |           |            |           |          |           |            |           |            |           |            |
| Benzene                    | µg/L  | 5      | 34,000      | 32,000   | 23,000    | 38,000     | 17,000    | 22,000   | 30,000    | 24,000     | 320       | 370        | 3,900     | 3,200      |
| Ethylbenzene               | µg/L  | 700    | 76 J        | 75 J     | 45 J      | 76 J       | 34 J      | 43 J     | 58 J      | 43 J       | 2.4 J     | 3.0 J      | 11 J      | 7.6 J      |
| Toluene                    | µg/L  | 1,000  | 2,700       | 2,600    | 1,900     | 3,200      | 1,400     | 1,900    | 2,400     | 1,900      | 65        | 75         | 290       | 220        |
| Xylenes                    | µg/L  | 10,000 | 910         | 950      | 510 J     | 990        | 400 J     | 550 J    | 720 J     | 520 J      | 34        | 39         | 110       | 82 J       |
| Total Volatile Organics    | µg/L  |        | 37,686      | 35,625   | 25,455    | 42,266     | 18,834    | 24,493   | 33,178    | 26,463     | 421       | 487        | 4,311     | 3,510      |

| Semi-Volatile Organic Compounds | Units | PAL  |       |       |       |       |       |       |       |       |     |       |     |     |
|---------------------------------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-----|-------|-----|-----|
| Naphthalene                     | µg/L  | 0.12 | 2,100 | 1,800 | 1,400 | 1,800 | 1,200 | 1,300 | 1,700 | 1,300 | 760 | 1,400 | 550 | 330 |

| Sample ID                  |       |        | CO198-MWS |            | CO201-MWS |            | CO30-PZM060 |
|----------------------------|-------|--------|-----------|------------|-----------|------------|-------------|
| Quarter                    |       |        | Q2        | Q4         | Q2        | Q4         | Q2          |
| Event Date                 |       |        | 6/6/2024  | 12/13/2024 | 6/6/2024  | 12/13/2024 | 6/6/2024    |
| Volatile Organic Compounds | Units | PAL    |           |            |           |            |             |
| Benzene                    | µg/L  | 5      | 280       | 230        | 42        | 600        | 99          |
| Ethylbenzene               | µg/L  | 700    | 2.6 J     | 1.8 J      | 0.21 J    | 1.1 J      | 0.33 J      |
| Toluene                    | µg/L  | 1,000  | 72        | 55         | 2.0       | 27         | 6.7         |
| Xylenes                    | µg/L  | 10,000 | 34        | 26 J       | 3.1       | 14 J       | 3.3 J       |
| Total Volatile Organics    | µg/L  |        | 389       | 313        | 47.3      | 642        | 109         |

| Semi-Volatile Organic Compounds | Units | PAL  |       |       |    |    |     |
|---------------------------------|-------|------|-------|-------|----|----|-----|
| Naphthalene                     | µg/L  | 0.12 | 1,700 | 1,600 | 11 | 74 | 5.3 |

Notes:  
**Bold = Analyte Detected**  
**Red = Exceedence of groundwater Project Action Limit (PAL)**  
µg/L = Micrograms per liter  
J = estimated result, detected below the reporting limit but above the method detection limit

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

| Parameter                      | Units   | Q1<br>1/1 - 3/31 | Q2<br>4/1 - 6/30 | Q3<br>7/1 - 9/30 | Q4<br>10/1 - 12/31 | Total<br>1/1 - 12/31 |
|--------------------------------|---------|------------------|------------------|------------------|--------------------|----------------------|
| Total Discharge                | gallons | 332,400          | 880,000          | 762,500          | 258,000            | 2,232,900            |
| Total Operating Time           | hours   | 610              | 2,135            | 2,197            | 2,196              | 7,138                |
| Overall Operational Time       | %       | 27.9%            | 97.8%            | 99.5%            | 99.5%              | 81.2%                |
|                                |         |                  |                  |                  |                    |                      |
| Extracted Total Concentrations | lbs/gal | 4.17E-05         | 4.34E-05         | 2.93E-05         | 9.08E-06           | 1.23E-04             |
| Effluent Total Concentrations  | lbs/gal | 0.0              | 0.0              | 0.0              | 0.0                | 0.0                  |
|                                |         |                  |                  |                  |                    |                      |
| Extracted Hydrocarbons         | lbs     | 13.8             | 38.2             | 22.3             | 67.0               | 141                  |
| Effluent Hydrocarbons          | lbs     | 0.0              | 0.1              | 0.0              | 0.0                | 0.1                  |
|                                |         |                  |                  |                  |                    |                      |
| Total Hydrocarbons Removed     | lbs     | 13.8             | 38.1             | 22.3             | 67.0               | 141                  |

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

| Monitoring Well Designation | Monitoring Well Temporary Identification | Installation Method | Northing  | Easting    | Top of Casing Elevation (ft AMSL) | Protection Cover Type | Well Total Depth (ft bgs) | Riser Length (ft) | Screen Length (ft) |
|-----------------------------|------------------------------------------|---------------------|-----------|------------|-----------------------------------|-----------------------|---------------------------|-------------------|--------------------|
| CO23-PZM008                 | -----                                    | Hollow Stem Auger   | 561783.98 | 1457095.86 | 11.17                             | Flush Mount           | 19                        | 9                 | 10                 |
| CO24-PZM007                 | -----                                    | Hollow Stem Auger   | 562048.18 | 1457276.82 | 12.02                             | Flush Mount           | 19                        | 9                 | 10                 |
| CO25-PZM008                 | -----                                    | -----               | 561813.66 | 1457587.48 | 15.79                             | None                  | 20                        | ---               | ---                |
| CO26-PZM007                 | -----                                    | Hollow Stem Auger   | 561682.43 | 1458048.05 | 12.76                             | Flush Mount           | 20                        | 10                | 10                 |
| CO55-PZM000                 | Cell 5 - MW1 (S)                         | Hollow Stem Auger   | 561434.42 | 1457585.90 | 15.10                             | Steel Riser           | 15                        | 5                 | 10                 |
| CO56-PZP001                 | Cell 5 - MW2 (S)                         | Hollow Stem Auger   | 561668.41 | 1457790.05 | 15.92                             | Steel Riser           | 15                        | 5                 | 10                 |
| CO57-PZP002                 | Cell 5 - MW3 (S)                         | Hollow Stem Auger   | 561122.52 | 1457530.00 | 16.59                             | Steel Riser           | 15                        | 5                 | 10                 |
| CO58-PZM001                 | Cell 5 - MW4 (S)                         | Hollow Stem Auger   | 561331.31 | 1457989.13 | 14.31                             | Steel Riser           | 15                        | 5                 | 10                 |
| CO59-PZP002                 | Cell 5 - MW5 (S)                         | Hollow Stem Auger   | 561446.98 | 1457308.79 | 16.75                             | Steel Riser           | 15                        | 5                 | 10                 |
| CO60-PZP001                 | Cell 5 - MW6 (S)                         | Hollow Stem Auger   | 561872.55 | 1457913.36 | 15.83                             | Steel Riser           | 15                        | 5                 | 10                 |
| CO203-MWS                   | -----                                    | -----               | 561979.81 | 1457971.02 | 10.53                             | Flush Mount           | 25                        | 5                 | 20                 |
| CO204-MWS                   | -----                                    | -----               | 561776.15 | 1457813.75 | 16.27                             | Steel Riser           | 25                        | 5                 | 20                 |
| CO205-MWS                   | -----                                    | -----               | 561794.48 | 1457978.39 | 15.55                             | Steel Riser           | 25                        | 5                 | 20                 |
| CO206R-MWS                  | -----                                    | -----               | 561600.41 | 1457593.35 | 14.32                             | Steel Riser           | 20                        | 5                 | 15                 |
| CO207-MWS                   | -----                                    | -----               | 561492.27 | 1458030.69 | 14.78                             | Steel Riser           | 25                        | 5                 | 20                 |

ft AMSL = feet above mean sea level

ft bgs = feet below ground surface



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

| Well ID     | Temporary Well ID | Top of PVC Elevation (ft AMSL) | Aquifer | Well Depth (ft bgs) | Q1 2024                       |                                 | Q2 2024                       |                                 | Q3 2024                       |                                 | Q4 2024                       |                                 |
|-------------|-------------------|--------------------------------|---------|---------------------|-------------------------------|---------------------------------|-------------------------------|---------------------------------|-------------------------------|---------------------------------|-------------------------------|---------------------------------|
|             |                   |                                |         |                     | Depth to Groundwater (ft bgs) | Groundwater Elevation (ft AMSL) | Depth to Groundwater (ft bgs) | Groundwater Elevation (ft AMSL) | Depth to Groundwater (ft bgs) | Groundwater Elevation (ft AMSL) | Depth to Groundwater (ft bgs) | Groundwater Elevation (ft AMSL) |
| CO23-PZM008 |                   | 15.74                          | Shallow | 19.00               | 14.60                         | 1.14                            | 14.75                         | 0.99                            | 14.64                         | 1.10                            | 15.23                         | 0.51                            |
| CO24-PZM007 |                   | 15.95                          | Shallow | 19.00               | 14.25                         | 1.70                            | 14.82                         | 1.13                            | 14.26                         | 1.69                            | 14.92                         | 1.03                            |
| CO25-PZM008 |                   | 12.03                          | Shallow | 20.00               | 15.01                         | -2.98                           | 15.14                         | -3.11                           | 15.05                         | -3.02                           | 15.59                         | -3.56                           |
| CO26-PZM007 |                   | 12.76                          | Shallow | 20.00               | 14.98                         | -2.22                           | 15.11                         | -2.35                           | 15.04                         | -2.28                           | 15.55                         | -2.79                           |
| CO55-PZM000 | Cell 5 - MW1 (S)  | 15.10                          | Shallow | 15.00               | 14.06                         | 1.04                            | 14.17                         | 0.93                            | 14.08                         | 1.02                            | --                            | --                              |
| CO56-PZP001 | Cell 5 - MW2 (S)  | 15.92                          | Shallow | 15.00               | 14.85                         | 1.07                            | 14.96                         | 0.96                            | 14.85                         | 1.07                            | 15.46                         | 0.46                            |
| CO57-PZP002 | Cell 5 - MW3 (S)  | 16.59                          | Shallow | 15.00               | 15.54                         | 1.05                            | 15.01                         | 1.58                            | 15.50                         | 1.09                            | 16.12                         | 0.47                            |
| CO58-PZM001 | Cell 5 - MW4 (S)  | 14.31                          | Shallow | 15.00               | 13.26                         | 1.05                            | 13.39                         | 0.92                            | 13.25                         | 1.06                            | 13.76                         | 0.55                            |
| CO59-PZP002 | Cell 5 - MW5 (S)  | 16.75                          | Shallow | 15.00               | 15.61                         | 1.14                            | 14.17                         | 2.58                            | 15.63                         | 1.12                            | 16.19                         | 0.56                            |
| CO60-PZP001 | Cell 5 - MW6 (S)  | 15.83                          | Shallow | 15.00               | 14.76                         | 1.07                            | *                             | *                               | *                             | *                               | *                             | *                               |
| CO203-MWS   |                   | 10.65                          | Shallow | 25.00               | 9.6                           | 1.05                            | 9.74                          | 0.91                            | 8.77                          | 1.88                            | --                            | --                              |
| CO204-MWS   |                   | 16.27                          | Shallow | 25.00               | 15.03                         | 1.24                            | 14.39                         | 1.88                            | 15.04                         | 1.23                            | --                            | --                              |
| CO205-MWS   |                   | 15.55                          | Shallow | 25.00               | 14.84                         | 0.71                            | 15.01                         | 0.54                            | 14.86                         | 0.69                            | --                            | --                              |
| CO206R-MWS  |                   | 14.32                          | Shallow | 20.00               | 13.61                         | 0.71                            | 13.72                         | 0.60                            | 13.6                          | 0.72                            | 14.17                         | 0.15                            |
| CO207-MWS   |                   | 14.78                          | Shallow | 25.00               | 13.64                         | 1.14                            | 15.81                         | -1.03                           | 13.64                         | 1.14                            | --                            | --                              |

Notes:

\* = No water, well obstructed

ft AMSL = feet above mean sea level

ft bgs = feet below ground surface

Table C5-4  
Cell 5 Groundwater Analytical Results

| Sample ID                       |      |       | CO23-PZM008 |        |         |          | CO24-PZM007 |        |         |           | CO25-PZM008 |        |         |          | CO26-PZM007 |        |         |          |       |
|---------------------------------|------|-------|-------------|--------|---------|----------|-------------|--------|---------|-----------|-------------|--------|---------|----------|-------------|--------|---------|----------|-------|
| Quarter                         |      |       | Q1          | Q2     | Q3      | Q4       | Q1          | Q2     | Q3      | Q4        | Q1          | Q2     | Q3      | Q4       | Q1          | Q2     | Q3      | Q4       |       |
| Event Date                      |      |       | 3/5/24      | 6/7/24 | 8/20/24 | 11/19/24 | 3/11/24     | 6/7/24 | 8/20/24 | 11/192024 | 3/5/24      | 6/7/24 | 8/20/24 | 11/19/24 | 3/5/24      | 6/7/24 | 8/14/24 | 11/20/24 |       |
| Volatile Organic Compounds      |      | Units | PAL         |        |         |          |             |        |         |           |             |        |         |          |             |        |         |          |       |
| Benzene                         | µg/L | 5     | 410         | 840    | 390     | 380      | 3.5 J       | 1,700  | 3.2 J   | 3.8 J     | 95          | 830    | 1,100   | 980      | 39          | 210    | 160     | 210      |       |
| Ethylbenzene                    | µg/L | 700   | 24          | 24     | 21      | 21       | 2.5 J       | 14     | 3.2 J   | 2.9 J     | 28 J        | 24 J   | 36 J    | 32 J     | 1.6 J       | 7.9 J  | 3.7 J   | 5.7      |       |
| Toluene                         | µg/L | 1000  | 220         | 540    | 190     | 210      | 2.0 J       | 940    | ND      | 2.0 J     | 870         | 730    | 1,000   | 940      | 23          | 130    | 79      | 110      |       |
| Xylenes                         | µg/L | 10000 | 390         | 420    | 360     | 350      | ND          | 250    | 3.4 J   | ND        | 680         | 640    | 920     | 810      | 36          | 190    | 79      | 120      |       |
| Total Volatile Organics         |      | µg/L  |             | 1,044  | 1,824   | 961      | 961         | 8.0    | 2,904   | 9.8       | 8.7         | 1,673  | 2,224   | 3,056    | 2,762       | 99.6   | 538     | 321.7    | 445.7 |
| Semi-Volatile Organic Compounds |      | Units | PAL         |        |         |          |             |        |         |           |             |        |         |          |             |        |         |          |       |
| Naphthalene                     | µg/L | 0.12  | 3,200       | 3,800  | 3,200   | 3,200    | 1,600       | 1,200  | 1,400   | 1,800     | 17,000      | 14,000 | 13,000  | 15,000   | 400         | 2,600  | 800     | 1,200    |       |

| Sample ID                       |  |       | CO55-PZM000 |        |         |          | CO56-PZP001 |         |         |          | CO57-PZP002 |        |         |          | CO58-PZM001 |        |         |          |       |
|---------------------------------|--|-------|-------------|--------|---------|----------|-------------|---------|---------|----------|-------------|--------|---------|----------|-------------|--------|---------|----------|-------|
| Quarter                         |  |       | Q1          | Q2     | Q3      | Q4       | Q1          | Q2      | Q3      | Q4       | Q1          | Q2     | Q3      | Q4       | Q1          | Q2     | Q3      | Q4       |       |
| Event Date                      |  |       | 3/8/24      | 6/7/24 | 8/15/24 | 11/20/24 | 3/5/24      | 6/72024 | 8/14/24 | 11/20/24 | 3/8/24      | 6/7/24 | 8/19/24 | 11/19/24 | 3/5/24      | 6/7/24 | 8/15/24 | 11/20/24 |       |
| Volatile Organic Compounds      |  | Units | PAL         |        |         |          |             |         |         |          |             |        |         |          |             |        |         |          |       |
| Benzene                         |  | µg/L  | 5           | ND     | 6.6     | 1.4      | 65          | 100     | 94      | 94       | 120         | ND     | 270     | 0.26 J   | 1.8         | 36     | 33      | 29       | 150   |
| Ethylbenzene                    |  | µg/L  | 700         | ND     | 0.3 J   | ND       | 1.6         | 6.8     | 5.4     | 4.8 J    | 5.4         | ND     | 6.3     | ND       | ND          | 3.0    | 1.5     | 1.2      | 8.0   |
| Toluene                         |  | µg/L  | 1000        | ND     | 2.0     | 0.58 J   | 26          | 22      | 9.2     | 28       | 21          | 0.34 J | 310     | 0.44 J   | 1.5         | 4.1    | 2.6     | 3.4      | 59    |
| Xylenes                         |  | µg/L  | 10000       | ND     | 2.9 J   | 0.42 J   | 21          | 150     | 110     | 110      | 110         | ND     | 130     | ND       | 0.42 J      | 27     | 21      | 23       | 140   |
| Total Volatile Organics         |  | µg/L  |             | ND     | 11.8    | 2.40     | 114         | 279     | 219     | 237      | 256         | 0.34 J | 716     | 0.7 J    | 3.72        | 70.1   | 58.1    | 56.6     | 357   |
| Semi-Volatile Organic Compounds |  | Units | PAL         |        |         |          |             |         |         |          |             |        |         |          |             |        |         |          |       |
| Naphthalene                     |  | µg/L  | 0.12        | ND     | 24      | 1.2      | 130         | 1,700   | 1,200   | 1,200    | 1,600       | ND     | 220     | 0.62 J   | 0.64 J      | 220    | 230     | 170      | 1,700 |

| Sample ID                       |      |       | CO59-PZP002 |        |         |          | CO206R-MWS |        |         |          |  |
|---------------------------------|------|-------|-------------|--------|---------|----------|------------|--------|---------|----------|--|
| Quarter                         |      |       | Q1          | Q2     | Q3      | Q4       | Q1         | Q2     | Q3      | Q4       |  |
| Event Date                      |      |       | 3/11/24     | 6/7/24 | 8/19/24 | 11/19/24 | 2/15/24    | 6/7/24 | 8/20/24 | 11/19/24 |  |
| Volatile Organic Compounds      |      | Units | PAL         |        |         |          |            |        |         |          |  |
| Benzene                         | µg/L | 5     | ND          | 300    | 0.19 J  | 14       | 140        | 230    | 260     | 260      |  |
| Ethylbenzene                    | µg/L | 700   | ND          | 5.1    | ND      | 1.0      | 7.9        | 8.5 J  | 10      | 8.2 J    |  |
| Toluene                         | µg/L | 1000  | ND          | 280    | ND      | 2.8      | 51         | 87     | 110     | 120      |  |
| Xylenes                         | µg/L | 10000 | ND          | 110    | ND      | 15       | 200        | 190    | 210     | 170      |  |
| Total Volatile Organics         |      | µg/L  | ND          | 695    | 0.19 J  | 32.8     | 399        | 516    | 590     | 558      |  |
| Semi-Volatile Organic Compounds |      | Units | PAL         |        |         |          |            |        |         |          |  |
| Naphthalene                     | µg/L | 0.12  | ND          | 130    | 0.9 J   | 77       | 2,900      | 2,300  | 1,800   | 1,800    |  |

Notes:

**Bold = Analyte Detected**

**Red = Exceedance of groundwater Project Action Limit (PAL)**

µg/L = Micrograms per liter

ND = Not Detected above the reporting limit

J = estimated result, detected below the reporting limit but above the method detection limit

**Table C6-1 Summary of Operation**  
**Cell 6: LNAPL Recovery in Former Benzol Processing Area**

| Method                                                                | Recovery Period |            | Pre-2024 |                    | LNAPL Recovered Q1 |                    | LNAPL Recovered Q2 |                    | LNAPL Recovered Q3 |                    | LNAPL Recovered Q4 |                    | Total LNAPL Recovered 2024 |                    | Cumulative Total LNAPL Recovered |                    |
|-----------------------------------------------------------------------|-----------------|------------|----------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|----------------------------|--------------------|----------------------------------|--------------------|
|                                                                       | Begin           | End        | (gal)    | (lbs) <sup>1</sup> | (gal)              | (lbs) <sup>1</sup> | (gal)              | (lbs) <sup>1</sup> | (gal)              | (lbs) <sup>1</sup> | (gal)              | (lbs) <sup>1</sup> | (gal)                      | (lbs) <sup>1</sup> | (gal)                            | (lbs) <sup>1</sup> |
| Manual Skimming and Bailing                                           | 7/23/2010       | 2019       | 16,162   | 118,435            | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                          | 0                  | 16,162                           | 118,435            |
| CO173 Pneumatic Skimmer Pump                                          | 12/17/2019      | 11/12/2024 | 8,355    | 61,225             | 168                | 1,232              | 128                | 935                | 121                | 887                | 47                 | 344                | 464                        | 3,398              | 8,819                            | 64,623             |
| Test Pit/Sump Bulk Removal (Double Diaphragm Pump, Sorbent Pads, EFR) | 9/6/2022        | On-going   | 2,443    | 17,902             | 614                | 4,499              | 163                | 1,193              | 1,195              | 8,758              | 550                | 4,030              | 2,522                      | 18,481             | 4,965                            | 36,384             |
| MPE System                                                            | 10/1/2016       | 2021       | 7,643    | 56,008             | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                          | 0                  | 7,643                            | 56,008             |
|                                                                       | Total Recovery  |            | 34,603   | 253,571            | 782                | 5,731              | 290                | 2,128              | 1,316              | 9,645              | 597                | 4,375              | 2,986                      | 21,879             | 37,589                           | 275,450            |

**Notes:**

<sup>1</sup> 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.

EFR = Enhanced Fluid Recovery



Table C6-2

## Cell 6: CO173 Groundwater Gauging and LNAPL Thickness Data (2024)

| <b>Date:</b> | <b>Depth to LNAPL<br/>(ft bTOC):</b> | <b>Depth to Groundwater<br/>(ft bTOC):</b> | <b>LNAPL<br/>Thickness (ft):</b> |
|--------------|--------------------------------------|--------------------------------------------|----------------------------------|
| 1/2/24       | 14.30                                | 18.65                                      | 4.35                             |
| 1/9/24       | 14.27                                | 18.63                                      | 4.36                             |
| 1/16/24      | 13.84                                | 18.39                                      | 4.55                             |
| 1/22/24      | 14.08                                | 18.60                                      | 4.52                             |
| 1/30/24      | 14.15                                | 18.38                                      | 4.23                             |
| 2/8/24       | 14.61                                | 18.42                                      | 3.81                             |
| 2/13/24      | 14.67                                | 18.15                                      | 3.48                             |
| 2/20/24      | 15.09                                | 18.25                                      | 3.16                             |
| 2/27/24      | 15.21                                | 18.43                                      | 3.22                             |
| 3/6/24       | 15.12                                | 18.68                                      | 3.56                             |
| 3/27/24      | 14.42                                | 18.58                                      | 4.16                             |
| 4/3/24       | 13.85                                | 18.18                                      | 4.33                             |
| 4/8/24       | 13.79                                | 18.76                                      | 4.97                             |
| 4/18/24      | 14.55                                | 18.95                                      | 4.40                             |
| 4/23/24      | 14.78                                | 18.95                                      | 4.17                             |
| 4/30/24      | 15.15                                | 18.86                                      | 3.71                             |
| 5/7/24       | 15.27                                | 18.75                                      | 3.48                             |
| 5/14/24      | 15.29                                | 18.36                                      | 3.07                             |
| 5/22/24      | 15.35                                | 18.74                                      | 3.39                             |
| 5/27/24      | 15.43                                | 18.78                                      | 3.35                             |
| 6/5/24       | 15.62                                | 18.58                                      | 2.96                             |
| 6/11/24      | 15.87                                | 18.49                                      | 2.62                             |
| 6/19/24      | 15.95                                | 18.57                                      | 2.62                             |
| 6/26/24      | 16.12                                | 19.18                                      | 3.06                             |
| 7/2/24       | 16.18                                | 18.59                                      | 2.41                             |
| 7/8/24       | 16.21                                | 18.82                                      | 2.61                             |
| 7/17/24      | 16.25                                | 19.11                                      | 2.86                             |
| 7/23/24      | 16.09                                | 18.48                                      | 2.39                             |
| 7/29/24      | 15.74                                | 18.50                                      | 2.76                             |
| 8/5/24       | 15.04                                | 18.02                                      | 2.98                             |
| 8/19/24      | 15.50                                | 18.58                                      | 3.08                             |
| 8/27/24      | 16.08                                | 18.81                                      | 2.73                             |
| 9/10/24      | 15.48                                | 18.31                                      | 2.83                             |
| 9/24/24      | 15.35                                | 18.75                                      | 3.40                             |
| 10/1/24      | 15.10                                | 18.67                                      | 3.57                             |
| 10/8/24      | 15.89                                | 17.90                                      | 2.01                             |
| 10/14/24     | 15.72                                | 18.95                                      | 3.23                             |
| 10/24/24     | 15.99                                | 18.87                                      | 2.88                             |
| 11/12/24     | 16.46                                | 18.97                                      | 2.51                             |

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## **APPENDIX A**

### **2024 Laboratory Analytical Reports**

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## ANALYTICAL REPORT

|                 |                                                                             |
|-----------------|-----------------------------------------------------------------------------|
| Lab Number:     | L2411611                                                                    |
| Client:         | Tradepoint Atlantic<br>1600 Sparrows Point Boulevard<br>Baltimore, MD 21219 |
| ATTN:           | Robert Tworkowski                                                           |
| Phone:          | (443) 649-5073                                                              |
| Project Name:   | COA GW                                                                      |
| Project Number: | 21010210                                                                    |
| Report Date:    | 03/11/24                                                                    |

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

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





**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411611  
**Report Date:** 03/11/24

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L2411611-01                | CO41-PZM001      | WATER         | Not Specified              | 03/04/24 12:50                  | 03/04/24            |
| L2411611-02                | CO41-PZM036      | WATER         | Not Specified              | 03/04/24 13:20                  | 03/04/24            |
| L2411611-03                | CO27-PZM046      | WATER         | Not Specified              | 03/04/24 14:00                  | 03/04/24            |
| L2411611-04                | CO27-PZM012      | WATER         | Not Specified              | 03/04/24 14:30                  | 03/04/24            |
| L2411611-05                | CO42-PZM004      | WATER         | Not Specified              | 03/04/24 15:25                  | 03/04/24            |
| L2411611-06                | TB-WT-01         | WATER         | Not Specified              | 03/04/24 00:00                  | 03/04/24            |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411611  
**Report Date:** 03/11/24

### 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:** L2411611  
**Report Date:** 03/11/24

### 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

L2411611-01: The collection date and time on the chain of custody was 04-MAR-24 12:50; however, the collection date/time on the container label was 04-MAR-24 12:55. At the client's request, the collection date/time is reported as 04-MAR-24 12:50.

#### Volatile Organics

L2411611-02D2: 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: 03/11/24



# ORGANICS

# **VOLATILES**

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411611  
**Report Date:** 03/11/24

**SAMPLE RESULTS**

**Lab ID:** L2411611-01  
**Client ID:** CO41-PZM001  
**Sample Location:** Not Specified

**Date Collected:** 03/04/24 12:50  
**Date Received:** 03/04/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 03/07/24 12:28  
**Analyst:** MJV

| Parameter                                    | Result | Qualifier | Units | RL   | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |      |                 |
| Benzene                                      | 56     |           | ug/l  | 0.50 | 0.16 | 1               |
| Toluene                                      | 7.5    |           | ug/l  | 0.75 | 0.20 | 1               |
| Ethylbenzene                                 | 1.7    |           | ug/l  | 0.50 | 0.17 | 1               |
| p/m-Xylene                                   | 3.0    |           | ug/l  | 1.0  | 0.33 | 1               |
| o-Xylene                                     | 0.61   | J         | ug/l  | 1.0  | 0.39 | 1               |
| Xylenes, Total                               | 3.6    | J         | ug/l  | 1.0  | 0.33 | 1               |
| Naphthalene                                  | 0.29   | J         | ug/l  | 1.0  | 0.22 | 1               |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 104        |           | 70-130              |
| Toluene-d8            | 106        |           | 70-130              |
| 4-Bromofluorobenzene  | 110        |           | 70-130              |
| Dibromofluoromethane  | 103        |           | 70-130              |



**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411611  
**Report Date:** 03/11/24

**SAMPLE RESULTS**

Lab ID: L2411611-02 D2  
 Client ID: CO41-PZM036  
 Sample Location: Not Specified

Date Collected: 03/04/24 13:20  
 Date Received: 03/04/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 03/10/24 17:56  
 Analyst: MJV

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

|                                              |  |  |  |  |  |  |
|----------------------------------------------|--|--|--|--|--|--|
| Volatile Organics by GC/MS - Westborough Lab |  |  |  |  |  |  |
|----------------------------------------------|--|--|--|--|--|--|

|         |        |  |      |      |     |      |
|---------|--------|--|------|------|-----|------|
| Benzene | 290000 |  | ug/l | 2500 | 800 | 5000 |
|---------|--------|--|------|------|-----|------|

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 110        |           | 70-130              |
| Toluene-d8            | 107        |           | 70-130              |
| 4-Bromofluorobenzene  | 113        |           | 70-130              |
| Dibromofluoromethane  | 104        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411611  
**Report Date:** 03/11/24

**SAMPLE RESULTS**

**Lab ID:** L2411611-02      D  
**Client ID:** CO41-PZM036  
**Sample Location:** Not Specified

**Date Collected:** 03/04/24 13:20  
**Date Received:** 03/04/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 03/07/24 12:50  
**Analyst:** MJV

| Parameter                                    | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |     |                 |
| Benzene                                      | 320000 | E         | ug/l  | 500  | 160 | 1000            |
| Toluene                                      | 100000 |           | ug/l  | 750  | 200 | 1000            |
| Ethylbenzene                                 | 970    |           | ug/l  | 500  | 170 | 1000            |
| p/m-Xylene                                   | 15000  |           | ug/l  | 1000 | 330 | 1000            |
| o-Xylene                                     | 4400   |           | ug/l  | 1000 | 390 | 1000            |
| Xylenes, Total                               | 19000  |           | ug/l  | 1000 | 330 | 1000            |
| Naphthalene                                  | 260    | J         | ug/l  | 1000 | 220 | 1000            |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 103        |           | 70-130              |
| Toluene-d8            | 105        |           | 70-130              |
| 4-Bromofluorobenzene  | 109        |           | 70-130              |
| Dibromofluoromethane  | 101        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411611  
**Report Date:** 03/11/24

**SAMPLE RESULTS**

Lab ID: L2411611-03 D  
 Client ID: CO27-PZM046  
 Sample Location: Not Specified

Date Collected: 03/04/24 14:00  
 Date Received: 03/04/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 03/07/24 13:12  
 Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 52000  |           | ug/l  | 250 | 80. | 500             |
| Toluene                                      | 6600   |           | ug/l  | 380 | 100 | 500             |
| Ethylbenzene                                 | 280    |           | ug/l  | 250 | 84. | 500             |
| p/m-Xylene                                   | 1200   |           | ug/l  | 500 | 170 | 500             |
| o-Xylene                                     | 560    |           | ug/l  | 500 | 200 | 500             |
| Xylenes, Total                               | 1800   |           | ug/l  | 500 | 170 | 500             |
| Naphthalene                                  | 750    |           | ug/l  | 500 | 110 | 500             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 106        |           | 70-130              |
| Toluene-d8            | 106        |           | 70-130              |
| 4-Bromofluorobenzene  | 110        |           | 70-130              |
| Dibromofluoromethane  | 104        |           | 70-130              |



**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411611  
**Report Date:** 03/11/24

**SAMPLE RESULTS**

Lab ID: L2411611-04 D  
 Client ID: CO27-PZM012  
 Sample Location: Not Specified

Date Collected: 03/04/24 14:30  
 Date Received: 03/04/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 03/07/24 13:35  
 Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 10000  |           | ug/l  | 50  | 16. | 100             |
| Toluene                                      | 3500   |           | ug/l  | 75  | 20. | 100             |
| Ethylbenzene                                 | 110    |           | ug/l  | 50  | 17. | 100             |
| p/m-Xylene                                   | 660    |           | ug/l  | 100 | 33. | 100             |
| o-Xylene                                     | 280    |           | ug/l  | 100 | 39. | 100             |
| Xylenes, Total                               | 940    |           | ug/l  | 100 | 33. | 100             |
| Naphthalene                                  | 760    |           | ug/l  | 100 | 22. | 100             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 107        |           | 70-130              |
| Toluene-d8            | 107        |           | 70-130              |
| 4-Bromofluorobenzene  | 111        |           | 70-130              |
| Dibromofluoromethane  | 103        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411611  
**Report Date:** 03/11/24

**SAMPLE RESULTS**

**Lab ID:** L2411611-05  
**Client ID:** CO42-PZM004  
**Sample Location:** Not Specified

**Date Collected:** 03/04/24 15:25  
**Date Received:** 03/04/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 03/07/24 12:06  
**Analyst:** MJV

| Parameter                                    | Result | Qualifier | Units | RL   | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |      |                 |
| Benzene                                      | 0.78   |           | ug/l  | 0.50 | 0.16 | 1               |
| Toluene                                      | 0.69   | 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                                  | ND     |           | ug/l  | 1.0  | 0.22 | 1               |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 106        |           | 70-130              |
| Toluene-d8            | 105        |           | 70-130              |
| 4-Bromofluorobenzene  | 111        |           | 70-130              |
| Dibromofluoromethane  | 107        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411611  
**Report Date:** 03/11/24

**SAMPLE RESULTS**

**Lab ID:** L2411611-06  
**Client ID:** TB-WT-01  
**Sample Location:** Not Specified

**Date Collected:** 03/04/24 00:00  
**Date Received:** 03/04/24  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 03/07/24 11:44  
**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 | 106        |           | 70-130              |
| Toluene-d8            | 108        |           | 70-130              |
| 4-Bromofluorobenzene  | 112        |           | 70-130              |
| Dibromofluoromethane  | 107        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411611  
**Report Date:** 03/11/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 03/07/24 08:01  
**Analyst:** MJV

| Parameter                                                                            | Result | Qualifier | Units | RL   | MDL  |
|--------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-06 Batch: WG1893780-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 100       |           | 70-130                 |
| Toluene-d8            | 105       |           | 70-130                 |
| 4-Bromofluorobenzene  | 109       |           | 70-130                 |
| Dibromofluoromethane  | 106       |           | 70-130                 |



**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411611  
**Report Date:** 03/11/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 03/10/24 16:05  
**Analyst:** KJD

| Parameter                                                                         | Result | Qualifier | Units | RL   | MDL  |
|-----------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1894592-5 |        |           |       |      |      |
| 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 | 112       |           | 70-130              |
| Toluene-d8            | 108       |           | 70-130              |
| 4-Bromofluorobenzene  | 110       |           | 70-130              |
| Dibromofluoromethane  | 108       |           | 70-130              |

# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411611  
**Report Date:** 03/11/24

| <b>Parameter</b>                                                                                        | <b>LCS<br/>%Recovery</b> | <b>Qual</b> | <b>LCSD<br/>%Recovery</b> | <b>Qual</b> | <b>%Recovery<br/>Limits</b> | <b>RPD</b> | <b>Qual</b> | <b>RPD<br/>Limits</b> |
|---------------------------------------------------------------------------------------------------------|--------------------------|-------------|---------------------------|-------------|-----------------------------|------------|-------------|-----------------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 Batch: WG1893780-3 WG1893780-4 |                          |             |                           |             |                             |            |             |                       |
| Benzene                                                                                                 | 98                       |             | 95                        |             | 70-130                      | 3          |             | 20                    |
| Toluene                                                                                                 | 100                      |             | 98                        |             | 70-130                      | 2          |             | 20                    |
| Ethylbenzene                                                                                            | 99                       |             | 94                        |             | 70-130                      | 5          |             | 20                    |
| p/m-Xylene                                                                                              | 100                      |             | 95                        |             | 70-130                      | 5          |             | 20                    |
| o-Xylene                                                                                                | 95                       |             | 90                        |             | 70-130                      | 5          |             | 20                    |
| Naphthalene                                                                                             | 95                       |             | 94                        |             | 70-130                      | 1          |             | 20                    |

| <b>Surrogate</b>      | <b>LCS<br/>%Recovery</b> | <b>Qual</b> | <b>LCSD<br/>%Recovery</b> | <b>Qual</b> | <b>Acceptance<br/>Criteria</b> |
|-----------------------|--------------------------|-------------|---------------------------|-------------|--------------------------------|
| 1,2-Dichloroethane-d4 | 101                      |             | 102                       |             | 70-130                         |
| Toluene-d8            | 109                      |             | 108                       |             | 70-130                         |
| 4-Bromofluorobenzene  | 110                      |             | 110                       |             | 70-130                         |
| Dibromofluoromethane  | 102                      |             | 101                       |             | 70-130                         |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411611  
**Report Date:** 03/11/24

| Parameter                                                                                            | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1894592-3 WG1894592-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                              | 110              |      | 100               |      | 70-130              | 10  |      | 20            |
| Toluene                                                                                              | 110              |      | 100               |      | 70-130              | 10  |      | 20            |
| Ethylbenzene                                                                                         | 100              |      | 100               |      | 70-130              | 0   |      | 20            |
| p/m-Xylene                                                                                           | 105              |      | 100               |      | 70-130              | 5   |      | 20            |
| o-Xylene                                                                                             | 100              |      | 100               |      | 70-130              | 0   |      | 20            |
| Naphthalene                                                                                          | 91               |      | 93                |      | 70-130              | 2   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 111              |      | 112               |      | 70-130                 |
| Toluene-d8            | 109              |      | 109               |      | 70-130                 |
| 4-Bromofluorobenzene  | 106              |      | 109               |      | 70-130                 |
| Dibromofluoromethane  | 104              |      | 103               |      | 70-130                 |

**Project Name:** COA GW  
**Project Number:** 21010210

Serial\_No:03112411:36  
**Lab Number:** L2411611  
**Report Date:** 03/11/24

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

| <b>Cooler</b> | <b>Custody Seal</b> |
|---------------|---------------------|
| A             | Absent              |

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial pH</b> | <b>Final pH</b> | <b>Temp deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-------------------|-----------------|-------------------|-------------|-------------|-------------------------|--------------------|
| L2411611-01A        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411611-01B        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411611-01C        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411611-02A        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411611-02B        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411611-02C        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411611-03A        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411611-03B        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411611-03C        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411611-04A        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411611-04B        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411611-04C        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411611-05A        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411611-05B        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411611-05C        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411611-06A        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411611-06B        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |



**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411611  
**Report Date:** 03/11/24

## GLOSSARY

### Acronyms

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DL       | - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                |
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                                                                                         |
| EMPC     | - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.                                                                                                                                                                                                                               |
| EPA      | - Environmental Protection Agency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                          |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                         |
| LOD      | - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                                                               |
| LOQ      | - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)<br><br>Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                          |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.                                                                                                                                                                                                    |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NA       | - Not Applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.                                                                                                                                                                                                                                                                                                                                                                           |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NI       | - Not Ignitable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NR       | - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.                                                                                                                                                                                                                                                                                                                                                                    |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                                                                                                                                   |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.                                                                  |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.                                                                                                                                                                                                                                                                                                                                                                     |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TEF      | - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.                                                                                                                                                                                                                                                                                                                                                                                             |
| TEQ      | - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.                                                                                                                                                                                                                                                                                                                                                        |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.                                                                                                                                                                                                                                                                      |

Report Format: DU Report with 'J' Qualifiers



**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411611  
**Report Date:** 03/11/24

## 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:** L2411611  
**Report Date:** 03/11/24

#### Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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:** L2411611  
**Report Date:** 03/11/24

## 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.





**Alpha Analytical, Inc.**Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 20

Published Date: 6/16/2023 4:52:28 PM

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**Certification Information**

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

**Westborough Facility****EPA 624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625.1:** alpha-Terpineol**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility****SM 2540D:** TSS.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

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

**Westborough Facility:****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).**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.



WESTBORO, MA  
TEL: 508-898-6220  
FAX: 508-898-9183

MANSFIELD, MA  
TEL: 508-822-9300  
FAX: 508-822-3288

# CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 3/5/24

ALPHA Job #: L2411611

## Project Information

Project Name: COA GW

Project Location:

Project #: 21010210

Project Manager: Bob T.

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 #:

## Regulatory Requirements/Report Limits

State /Fed Program

Criteria

## Client Information

Client: TPA

Address:

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

## 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

Date

Time

Sample Matrix

Sampler's Initials

|          |             |        |      |    |    |
|----------|-------------|--------|------|----|----|
| 11611-01 | C041-P2M001 | 3/4/24 | 1250 | GW | TP |
| -02      | C041-P2M036 |        | 1320 |    |    |
| -03      | C027-P2M046 |        | 1400 |    |    |
| -04      | C027-P2M012 |        | 1430 |    |    |
| -05      | C042-P2M004 |        | 1525 |    |    |
| -06      | TB-Wt-01    | -      | -    |    |    |

ANALYSIS

BTEX + Naphthalene

TOTAL # BOTTLES

Rel: 3/5/24 0200  
3/5/24 0200

Container Type V

Preservative B

Relinquished By:

Date/Time

Received By:

Date/Time

Anthony Green

3/4/24 1550

3/11/24 1550

3/11/24 2000

3/4/24 2340

Anthony Green

3/4/24 1552

3/4/24 1552

3/4/24 2340

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:     | L2408566                                                                    |
| Client:         | Tradepoint Atlantic<br>1600 Sparrows Point Boulevard<br>Baltimore, MD 21219 |
| ATTN:           | Robert Tworkowski                                                           |
| Phone:          | (443) 649-5073                                                              |
| Project Name:   | COA-Q1                                                                      |
| Project Number: | 20010210                                                                    |
| Report Date:    | 02/16/24                                                                    |

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-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

---

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



**Project Name:** COA-Q1  
**Project Number:** 20010210

**Lab Number:** L2408566  
**Report Date:** 02/16/24

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L2408566-01                | CO206R-MWS       | WATER         | COA                        | 02/15/24 15:10                  | 02/15/24            |
| L2408566-02                | TB-WT-01         | WATER         | COA                        | 02/15/24 00:00                  | 02/15/24            |



**Project Name:** COA-Q1  
**Project Number:** 20010210

**Lab Number:** L2408566  
**Report Date:** 02/16/24

### 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-Q1  
**Project Number:** 20010210

**Lab Number:** L2408566  
**Report Date:** 02/16/24

**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: 02/16/24

# ORGANICS

# **VOLATILES**



**Project Name:** COA-Q1  
**Project Number:** 20010210

**Lab Number:** L2408566  
**Report Date:** 02/16/24

**SAMPLE RESULTS**

Lab ID: L2408566-01 D2  
 Client ID: CO206R-MWS  
 Sample Location: COA

Date Collected: 02/15/24 15:10  
 Date Received: 02/15/24  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 02/16/24 12:44  
 Analyst: PID

| Parameter                                    | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |    |     |                 |
| Naphthalene                                  | 2900   |           | ug/l  | 50 | 11. | 50              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 113        |           | 70-130              |
| Toluene-d8            | 97         |           | 70-130              |
| 4-Bromofluorobenzene  | 99         |           | 70-130              |
| Dibromofluoromethane  | 103        |           | 70-130              |

**Project Name:** COA-Q1  
**Project Number:** 20010210

**Lab Number:** L2408566  
**Report Date:** 02/16/24

**SAMPLE RESULTS**

Lab ID: L2408566-01 D  
 Client ID: CO206R-MWS  
 Sample Location: COA

Date Collected: 02/15/24 15:10  
 Date Received: 02/15/24  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 02/16/24 11:58  
 Analyst: PID

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 140    |           | ug/l  | 5.0 | 1.6 | 10              |
| Toluene                                      | 51     |           | ug/l  | 7.5 | 2.0 | 10              |
| Ethylbenzene                                 | 7.9    |           | ug/l  | 5.0 | 1.7 | 10              |
| p/m-Xylene                                   | 150    |           | ug/l  | 10  | 3.3 | 10              |
| o-Xylene                                     | 52     |           | ug/l  | 10  | 3.9 | 10              |
| Xylenes, Total                               | 200    |           | ug/l  | 10  | 3.3 | 10              |
| Naphthalene                                  | 2300   | E         | ug/l  | 10  | 2.2 | 10              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 107        |           | 70-130              |
| Toluene-d8            | 102        |           | 70-130              |
| 4-Bromofluorobenzene  | 92         |           | 70-130              |
| Dibromofluoromethane  | 103        |           | 70-130              |

**Project Name:** COA-Q1  
**Project Number:** 20010210

**Lab Number:** L2408566  
**Report Date:** 02/16/24

**SAMPLE RESULTS**

**Lab ID:** L2408566-02  
**Client ID:** TB-WT-01  
**Sample Location:** COA

**Date Collected:** 02/15/24 00:00  
**Date Received:** 02/15/24  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 02/16/24 11:32  
**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 | 109        |           | 70-130              |
| Toluene-d8            | 104        |           | 70-130              |
| 4-Bromofluorobenzene  | 95         |           | 70-130              |
| Dibromofluoromethane  | 108        |           | 70-130              |

**Project Name:** COA-Q1  
**Project Number:** 20010210

**Lab Number:** L2408566  
**Report Date:** 02/16/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 02/16/24 11:06  
**Analyst:** PID

| Parameter                                                                            | Result | Qualifier | Units | RL   | MDL  |
|--------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1886070-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 109       |           | 70-130                 |
| Toluene-d8            | 104       |           | 70-130                 |
| 4-Bromofluorobenzene  | 90        |           | 70-130                 |
| Dibromofluoromethane  | 107       |           | 70-130                 |



**Project Name:** COA-Q1  
**Project Number:** 20010210

**Lab Number:** L2408566  
**Report Date:** 02/16/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 02/16/24 10:37  
**Analyst:** PID

| Parameter                                                                         | Result | Qualifier | Units | RL   | MDL  |
|-----------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1886086-5 |        |           |       |      |      |
| 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 | 120       |           | 70-130              |
| Toluene-d8            | 97        |           | 70-130              |
| 4-Bromofluorobenzene  | 101       |           | 70-130              |
| Dibromofluoromethane  | 108       |           | 70-130              |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** COA-Q1  
**Project Number:** 20010210

**Lab Number:** L2408566  
**Report Date:** 02/16/24

| Parameter                                                                                               | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1886070-3 WG1886070-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                 | 100              |      | 100               |      | 70-130              | 0   |      | 20            |
| Toluene                                                                                                 | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| Ethylbenzene                                                                                            | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| p/m-Xylene                                                                                              | 115              |      | 115               |      | 70-130              | 0   |      | 20            |
| o-Xylene                                                                                                | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| Naphthalene                                                                                             | 72               |      | 75                |      | 70-130              | 4   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 100              |      | 101               |      | 70-130                 |
| Toluene-d8            | 105              |      | 105               |      | 70-130                 |
| 4-Bromofluorobenzene  | 93               |      | 94                |      | 70-130                 |
| Dibromofluoromethane  | 102              |      | 104               |      | 70-130                 |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** COA-Q1  
**Project Number:** 20010210

**Lab Number:** L2408566  
**Report Date:** 02/16/24

| Parameter                                                                                            | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1886086-3 WG1886086-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                              | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| Toluene                                                                                              | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| Ethylbenzene                                                                                         | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| p/m-Xylene                                                                                           | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| o-Xylene                                                                                             | 105              |      | 110               |      | 70-130              | 5   |      | 20            |
| Naphthalene                                                                                          | 86               |      | 98                |      | 70-130              | 13  |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 114              |      | 116               |      | 70-130                 |
| Toluene-d8            | 102              |      | 102               |      | 70-130                 |
| 4-Bromofluorobenzene  | 103              |      | 100               |      | 70-130                 |
| Dibromofluoromethane  | 99               |      | 98                |      | 70-130                 |

**Project Name:** COA-Q1**Lab Number:** L2408566**Project Number:** 20010210**Report Date:** 02/16/24**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

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

A                                  Absent

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|--------------------|
| L2408566-01A        | Vial HCl preserved    | A             | NA                    |                     | 2.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2408566-01B        | Vial HCl preserved    | A             | NA                    |                     | 2.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2408566-01C        | Vial HCl preserved    | A             | NA                    |                     | 2.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2408566-02A        | Vial HCl preserved    | A             | NA                    |                     | 2.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2408566-02B        | Vial HCl preserved    | A             | NA                    |                     | 2.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2408566-02C        | Vial HCl preserved    | A             | NA                    |                     | 2.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2408566-02D        | Vial HCl preserved    | A             | NA                    |                     | 2.1                   | Y           | Absent      |                             | PA-8260(14)        |



**Project Name:** COA-Q1  
**Project Number:** 20010210

**Lab Number:** L2408566  
**Report Date:** 02/16/24

## 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



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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-Q1  
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#### Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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-Q1  
**Project Number:** 20010210

**Lab Number:** L2408566  
**Report Date:** 02/16/24

## 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.





**Alpha Analytical, Inc.**Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 20

Published Date: 6/16/2023 4:52:28 PM

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**Certification Information****The following analytes are not included in our Primary NELAP Scope of Accreditation:****Westborough Facility****EPA 624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625.1:** alpha-Terpineol**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility****SM 2540D:** TSS.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B**The following analytes are included in our Massachusetts DEP Scope of Accreditation****Westborough Facility:****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).**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:     | L2412964                                                                    |
| Client:         | Tradepoint Atlantic<br>1600 Sparrows Point Boulevard<br>Baltimore, MD 21219 |
| ATTN:           | Robert Tworkowski                                                           |
| Phone:          | (443) 649-5073                                                              |
| Project Name:   | COA GW                                                                      |
| Project Number: | 21010210                                                                    |
| Report Date:    | 03/15/24                                                                    |

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-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

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



**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2412964  
**Report Date:** 03/15/24

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L2412964-01                | CO57-PZP002      | WATER         | Not Specified              | 03/08/24 12:20                  | 03/08/24            |
| L2412964-02                | CO55-PZM000      | WATER         | Not Specified              | 03/08/24 12:40                  | 03/08/24            |
| L2412964-03                | CO30-PZM015      | WATER         | Not Specified              | 03/08/24 13:25                  | 03/08/24            |
| L2412964-04                | CO195-MWS        | WATER         | Not Specified              | 03/08/24 14:25                  | 03/08/24            |
| L2412964-05                | TB-WT-01         | WATER         | Not Specified              | 03/08/24 00:00                  | 03/08/24            |



**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2412964  
**Report Date:** 03/15/24

### 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.

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**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2412964  
**Report Date:** 03/15/24

**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* Caitlin Walukevich

Title: Technical Director/Representative

Date: 03/15/24

# ORGANICS

# VOLATILES



**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2412964  
**Report Date:** 03/15/24

**SAMPLE RESULTS**

**Lab ID:** L2412964-01  
**Client ID:** CO57-PZP002  
**Sample Location:** Not Specified

**Date Collected:** 03/08/24 12:20  
**Date Received:** 03/08/24  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 03/12/24 23:56  
**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                                      | 0.34   | 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                                  | ND     |           | ug/l  | 1.0  | 0.22 | 1               |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 116        |           | 70-130              |
| Toluene-d8            | 102        |           | 70-130              |
| 4-Bromofluorobenzene  | 94         |           | 70-130              |
| Dibromofluoromethane  | 110        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2412964  
**Report Date:** 03/15/24

**SAMPLE RESULTS**

**Lab ID:** L2412964-02  
**Client ID:** CO55-PZM000  
**Sample Location:** Not Specified

**Date Collected:** 03/08/24 12:40  
**Date Received:** 03/08/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 03/13/24 00:21  
**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 | 117        |           | 70-130              |
| Toluene-d8            | 101        |           | 70-130              |
| 4-Bromofluorobenzene  | 95         |           | 70-130              |
| Dibromofluoromethane  | 111        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2412964  
**Report Date:** 03/15/24

**SAMPLE RESULTS**

Lab ID: L2412964-03 D  
 Client ID: CO30-PZM015  
 Sample Location: Not Specified

Date Collected: 03/08/24 13:25  
 Date Received: 03/08/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 03/13/24 01:10  
 Analyst: PID

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 34000  |           | ug/l  | 120 | 40. | 250             |
| Toluene                                      | 2700   |           | ug/l  | 190 | 51. | 250             |
| Ethylbenzene                                 | 76     | J         | ug/l  | 120 | 42. | 250             |
| p/m-Xylene                                   | 640    |           | ug/l  | 250 | 83. | 250             |
| o-Xylene                                     | 270    |           | ug/l  | 250 | 98. | 250             |
| Xylenes, Total                               | 910    |           | ug/l  | 250 | 83. | 250             |
| Naphthalene                                  | 2100   |           | ug/l  | 250 | 54. | 250             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 107        |           | 70-130              |
| Toluene-d8            | 101        |           | 70-130              |
| 4-Bromofluorobenzene  | 95         |           | 70-130              |
| Dibromofluoromethane  | 98         |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2412964  
**Report Date:** 03/15/24

**SAMPLE RESULTS**

Lab ID: L2412964-04 D  
 Client ID: CO195-MWS  
 Sample Location: Not Specified

Date Collected: 03/08/24 14:25  
 Date Received: 03/08/24  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 03/13/24 01:34  
 Analyst: PID

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 17000  |           | ug/l  | 100 | 32. | 200             |
| Toluene                                      | 1400   |           | ug/l  | 150 | 41. | 200             |
| Ethylbenzene                                 | 34     | J         | ug/l  | 100 | 33. | 200             |
| p/m-Xylene                                   | 280    |           | ug/l  | 200 | 66. | 200             |
| o-Xylene                                     | 120    | J         | ug/l  | 200 | 78. | 200             |
| Xylenes, Total                               | 400    | J         | ug/l  | 200 | 66. | 200             |
| Naphthalene                                  | 1200   |           | ug/l  | 200 | 43. | 200             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 108        |           | 70-130              |
| Toluene-d8            | 100        |           | 70-130              |
| 4-Bromofluorobenzene  | 94         |           | 70-130              |
| Dibromofluoromethane  | 101        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2412964  
**Report Date:** 03/15/24

**SAMPLE RESULTS**

**Lab ID:** L2412964-05  
**Client ID:** TB-WT-01  
**Sample Location:** Not Specified

**Date Collected:** 03/08/24 00:00  
**Date Received:** 03/08/24  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 03/13/24 00:45  
**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 | 112        |           | 70-130              |
| Toluene-d8            | 102        |           | 70-130              |
| 4-Bromofluorobenzene  | 94         |           | 70-130              |
| Dibromofluoromethane  | 106        |           | 70-130              |



**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2412964  
**Report Date:** 03/15/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 03/12/24 20:16  
**Analyst:** MAG

| Parameter                                                                            | Result | Qualifier | Units | RL   | MDL  |
|--------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-05 Batch: WG1895714-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 112       |           | 70-130                 |
| Toluene-d8            | 101       |           | 70-130                 |
| 4-Bromofluorobenzene  | 96        |           | 70-130                 |
| Dibromofluoromethane  | 108       |           | 70-130                 |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2412964  
**Report Date:** 03/15/24

| Parameter                                                                                               | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05 Batch: WG1895714-3 WG1895714-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                 | 100              |      | 110               |      | 70-130              | 10  |      | 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                                                                                             | 96               |      | 98                |      | 70-130              | 2   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 112              |      | 113               |      | 70-130                 |
| Toluene-d8            | 102              |      | 102               |      | 70-130                 |
| 4-Bromofluorobenzene  | 96               |      | 98                |      | 70-130                 |
| Dibromofluoromethane  | 103              |      | 105               |      | 70-130                 |

**Project Name:** COA GW  
**Project Number:** 21010210

Serial\_No:03152410:13  
**Lab Number:** L2412964  
**Report Date:** 03/15/24

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

| <b>Cooler</b> | <b>Custody Seal</b> |
|---------------|---------------------|
| A             | Absent              |

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial pH</b> | <b>Final pH</b> | <b>Temp deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-------------------|-----------------|-------------------|-------------|-------------|-------------------------|--------------------|
| L2412964-01A        | Vial HCl preserved    | A             | NA                |                 | 4.6               | Y           | Absent      |                         | PA-8260(14)        |
| L2412964-01B        | Vial HCl preserved    | A             | NA                |                 | 4.6               | Y           | Absent      |                         | PA-8260(14)        |
| L2412964-01C        | Vial HCl preserved    | A             | NA                |                 | 4.6               | Y           | Absent      |                         | PA-8260(14)        |
| L2412964-02A        | Vial HCl preserved    | A             | NA                |                 | 4.6               | Y           | Absent      |                         | PA-8260(14)        |
| L2412964-02B        | Vial HCl preserved    | A             | NA                |                 | 4.6               | Y           | Absent      |                         | PA-8260(14)        |
| L2412964-02C        | Vial HCl preserved    | A             | NA                |                 | 4.6               | Y           | Absent      |                         | PA-8260(14)        |
| L2412964-03A        | Vial HCl preserved    | A             | NA                |                 | 4.6               | Y           | Absent      |                         | PA-8260(14)        |
| L2412964-03B        | Vial HCl preserved    | A             | NA                |                 | 4.6               | Y           | Absent      |                         | PA-8260(14)        |
| L2412964-03C        | Vial HCl preserved    | A             | NA                |                 | 4.6               | Y           | Absent      |                         | PA-8260(14)        |
| L2412964-04A        | Vial HCl preserved    | A             | NA                |                 | 4.6               | Y           | Absent      |                         | PA-8260(14)        |
| L2412964-04B        | Vial HCl preserved    | A             | NA                |                 | 4.6               | Y           | Absent      |                         | PA-8260(14)        |
| L2412964-04C        | Vial HCl preserved    | A             | NA                |                 | 4.6               | Y           | Absent      |                         | PA-8260(14)        |
| L2412964-05A        | Vial HCl preserved    | A             | NA                |                 | 4.6               | Y           | Absent      |                         | PA-8260(14)        |
| L2412964-05B        | Vial HCl preserved    | A             | NA                |                 | 4.6               | Y           | Absent      |                         | PA-8260(14)        |
| L2412964-05C        | Vial HCl preserved    | A             | NA                |                 | 4.6               | Y           | Absent      |                         | PA-8260(14)        |
| L2412964-05D        | Vial HCl preserved    | A             | NA                |                 | 4.6               | Y           | Absent      |                         | PA-8260(14)        |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2412964  
**Report Date:** 03/15/24

## 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:** L2412964  
**Report Date:** 03/15/24

## 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:** L2412964  
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#### Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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:** L2412964  
**Report Date:** 03/15/24

## 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.



**Alpha Analytical, Inc.**Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 20

Published Date: 6/16/2023 4:52:28 PM

Page 1 of 1

**Certification Information**

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

**Westborough Facility****EPA 624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625.1:** alpha-Terpineol**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility****SM 2540D:** TSS.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

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

**Westborough Facility:****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).**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.



WESTBORO, MA  
TEL: 508-898-9220  
FAX: 508-898-9193

MANSFIELD, MA  
TEL: 508-822-9300  
FAX: 508-822-3288

# CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 3/9/24

ALPHA Job #: L2412964

## Client Information

Client: TPA

Address:

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: COA GW

Project Location:

Project #: 21010210

Project Manager: Bob T

ALPHA Quote #:

## Turn-Around Time

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

Date Due:

Time:

Other Project Specific Requirements/Comments/Detection Limits:

All samples pH > 10

## 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

## SAMPLE HANDLING

Filtration \_\_\_\_\_

☐ Done

☐ Not needed

☐ Lab to do Preservation

☐ Lab to do

(Please specify below)

Sample Specific Comments

| ALPHA Lab ID<br>(Lab Use Only) | Sample ID   | Collection |      | Sample Matrix | Sampler's Initials |
|--------------------------------|-------------|------------|------|---------------|--------------------|
|                                |             | Date       | Time |               |                    |
| 12964-01                       | C057-P2P002 | 3/8/24     | 1220 | GW            | TP                 |
| 02                             | C055-P2M000 |            | 1240 |               |                    |
| 03                             | C030-P2M015 |            | 1325 |               |                    |
| 04                             | C0195-MWS   |            | 1425 |               |                    |
| 05                             | TP-WT-01    |            |      |               |                    |

ANALYSIS

BIEX off/where

X

X

X

X

X

TOTAL # BOTTLES

3

3

3

3

4

Rel: 3/8/24 0245

3/9/24 0245

Container Type

Preservative

Relinquished By:

Date/Time

Received By:

Date/Time

Paul Maggella

3/8/24 0015

3/8/24 1445

3/8/24 1445

3/8/24 1445

Paul Maggella

3/8/24 2100

3/8/24 0015

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:     | L2411856                                                                    |
| Client:         | Tradepoint Atlantic<br>1600 Sparrows Point Boulevard<br>Baltimore, MD 21219 |
| ATTN:           | Robert Tworkowski                                                           |
| Phone:          | (443) 649-5073                                                              |
| Project Name:   | COA GW                                                                      |
| Project Number: | 21010210                                                                    |
| Report Date:    | 03/12/24                                                                    |

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-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

---

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





**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411856  
**Report Date:** 03/12/24

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L2411856-01                | CO23-PZM008      | WATER         | Not Specified              | 03/05/24 12:40                  | 03/05/24            |
| L2411856-02                | CO25-PZM008      | WATER         | Not Specified              | 03/05/24 13:25                  | 03/05/24            |
| L2411856-03                | CO26-PZM007      | WATER         | Not Specified              | 03/05/24 14:00                  | 03/05/24            |
| L2411856-04                | CO56-PZP001      | WATER         | Not Specified              | 03/05/24 15:10                  | 03/05/24            |
| L2411856-05                | CO58-PZM001      | WATER         | Not Specified              | 03/05/24 15:50                  | 03/05/24            |
| L2411856-06                | TB-WT-01         | WATER         | Not Specified              | 03/05/24 00:00                  | 03/05/24            |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411856  
**Report Date:** 03/12/24

### 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:** L2411856  
**Report Date:** 03/12/24

**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* Melissa Sturgis

Title: Technical Director/Representative

Date: 03/12/24

# ORGANICS

# VOLATILES



**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411856  
**Report Date:** 03/12/24

**SAMPLE RESULTS**

Lab ID: L2411856-01 D  
 Client ID: CO23-PZM008  
 Sample Location: Not Specified

Date Collected: 03/05/24 12:40  
 Date Received: 03/05/24  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 03/08/24 16:44  
 Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |    |     |                 |
| Benzene                                      | 410    |           | ug/l  | 12 | 4.0 | 25              |
| Toluene                                      | 220    |           | ug/l  | 19 | 5.1 | 25              |
| Ethylbenzene                                 | 24     |           | ug/l  | 12 | 4.2 | 25              |
| p/m-Xylene                                   | 280    |           | ug/l  | 25 | 8.3 | 25              |
| o-Xylene                                     | 110    |           | ug/l  | 25 | 9.8 | 25              |
| Xylenes, Total                               | 390    |           | ug/l  | 25 | 8.3 | 25              |
| Naphthalene                                  | 3200   |           | ug/l  | 25 | 5.4 | 25              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 102        |           | 70-130              |
| Toluene-d8            | 104        |           | 70-130              |
| 4-Bromofluorobenzene  | 107        |           | 70-130              |
| Dibromofluoromethane  | 104        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411856  
**Report Date:** 03/12/24

**SAMPLE RESULTS**

Lab ID: L2411856-02 D  
 Client ID: CO25-PZM008  
 Sample Location: Not Specified

Date Collected: 03/05/24 13:25  
 Date Received: 03/05/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 03/11/24 10:05  
 Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 950    |           | ug/l  | 50  | 16. | 100             |
| Toluene                                      | 870    |           | ug/l  | 75  | 20. | 100             |
| Ethylbenzene                                 | 28     | J         | ug/l  | 50  | 17. | 100             |
| p/m-Xylene                                   | 510    |           | ug/l  | 100 | 33. | 100             |
| o-Xylene                                     | 170    |           | ug/l  | 100 | 39. | 100             |
| Xylenes, Total                               | 680    |           | ug/l  | 100 | 33. | 100             |
| Naphthalene                                  | 17000  |           | ug/l  | 100 | 22. | 100             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 111        |           | 70-130              |
| Toluene-d8            | 107        |           | 70-130              |
| 4-Bromofluorobenzene  | 108        |           | 70-130              |
| Dibromofluoromethane  | 106        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411856  
**Report Date:** 03/12/24

**SAMPLE RESULTS**

Lab ID: L2411856-03 D  
 Client ID: CO26-PZM007  
 Sample Location: Not Specified

Date Collected: 03/05/24 14:00  
 Date Received: 03/05/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 03/08/24 15:53  
 Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL  | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |      |                 |
| Benzene                                      | 39     |           | ug/l  | 2.0 | 0.64 | 4               |
| Toluene                                      | 23     |           | ug/l  | 3.0 | 0.81 | 4               |
| Ethylbenzene                                 | 1.6    | J         | ug/l  | 2.0 | 0.67 | 4               |
| p/m-Xylene                                   | 26     |           | ug/l  | 4.0 | 1.3  | 4               |
| o-Xylene                                     | 9.5    |           | ug/l  | 4.0 | 1.6  | 4               |
| Xylenes, Total                               | 36     |           | ug/l  | 4.0 | 1.3  | 4               |
| Naphthalene                                  | 400    |           | ug/l  | 4.0 | 0.86 | 4               |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 107        |           | 70-130              |
| Toluene-d8            | 104        |           | 70-130              |
| 4-Bromofluorobenzene  | 102        |           | 70-130              |
| Dibromofluoromethane  | 105        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411856  
**Report Date:** 03/12/24

**SAMPLE RESULTS**

Lab ID: L2411856-04 D  
 Client ID: CO56-PZP001  
 Sample Location: Not Specified

Date Collected: 03/05/24 15:10  
 Date Received: 03/05/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 03/11/24 09:43  
 Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 100    |           | ug/l  | 5.0 | 1.6 | 10              |
| Toluene                                      | 22     |           | ug/l  | 7.5 | 2.0 | 10              |
| Ethylbenzene                                 | 6.8    |           | ug/l  | 5.0 | 1.7 | 10              |
| p/m-Xylene                                   | 110    |           | ug/l  | 10  | 3.3 | 10              |
| o-Xylene                                     | 40     |           | ug/l  | 10  | 3.9 | 10              |
| Xylenes, Total                               | 150    |           | ug/l  | 10  | 3.3 | 10              |
| Naphthalene                                  | 1700   |           | ug/l  | 10  | 2.2 | 10              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 112        |           | 70-130              |
| Toluene-d8            | 108        |           | 70-130              |
| 4-Bromofluorobenzene  | 107        |           | 70-130              |
| Dibromofluoromethane  | 107        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411856  
**Report Date:** 03/12/24

**SAMPLE RESULTS**

Lab ID: L2411856-05 D  
 Client ID: CO58-PZM001  
 Sample Location: Not Specified

Date Collected: 03/05/24 15:50  
 Date Received: 03/05/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 03/08/24 16:19  
 Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL  | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |      |                 |
| Benzene                                      | 36     |           | ug/l  | 1.0 | 0.32 | 2               |
| Toluene                                      | 4.1    |           | ug/l  | 1.5 | 0.41 | 2               |
| Ethylbenzene                                 | 3.0    |           | ug/l  | 1.0 | 0.33 | 2               |
| p/m-Xylene                                   | 17     |           | ug/l  | 2.0 | 0.66 | 2               |
| o-Xylene                                     | 10     |           | ug/l  | 2.0 | 0.78 | 2               |
| Xylenes, Total                               | 27     |           | ug/l  | 2.0 | 0.66 | 2               |
| Naphthalene                                  | 220    |           | ug/l  | 2.0 | 0.43 | 2               |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 107        |           | 70-130              |
| Toluene-d8            | 104        |           | 70-130              |
| 4-Bromofluorobenzene  | 100        |           | 70-130              |
| Dibromofluoromethane  | 104        |           | 70-130              |



**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411856  
**Report Date:** 03/12/24

**SAMPLE RESULTS**

**Lab ID:** L2411856-06  
**Client ID:** TB-WT-01  
**Sample Location:** Not Specified

**Date Collected:** 03/05/24 00:00  
**Date Received:** 03/05/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 03/08/24 15:28  
**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 | 107        |           | 70-130              |
| Toluene-d8            | 104        |           | 70-130              |
| 4-Bromofluorobenzene  | 100        |           | 70-130              |
| Dibromofluoromethane  | 107        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411856  
**Report Date:** 03/12/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 03/08/24 08:43  
**Analyst:** PID

| Parameter                                                                                  | Result | Qualifier | Units | RL   | MDL  |
|--------------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01,03,05-06 Batch: WG1894569-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 112       |           | 70-130                 |
| Toluene-d8            | 103       |           | 70-130                 |
| 4-Bromofluorobenzene  | 106       |           | 70-130                 |
| Dibromofluoromethane  | 104       |           | 70-130                 |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411856  
**Report Date:** 03/12/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 03/11/24 08:09  
**Analyst:** PID

| Parameter                                                                            | Result | Qualifier | Units | RL   | MDL  |
|--------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 02,04 Batch: WG1895059-5 |        |           |       |      |      |
| 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 | 112       |           | 70-130              |
| Toluene-d8            | 108       |           | 70-130              |
| 4-Bromofluorobenzene  | 112       |           | 70-130              |
| Dibromofluoromethane  | 109       |           | 70-130              |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411856  
**Report Date:** 03/12/24

| Parameter                                                                                                     | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---------------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03,05-06 Batch: WG1894569-3 WG1894569-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                       | 100              |      | 100               |      | 70-130              | 0   |      | 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                                                                                                      | 95               |      | 95                |      | 70-130              | 0   |      | 20            |
| Naphthalene                                                                                                   | 75               |      | 78                |      | 70-130              | 4   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 109              |      | 109               |      | 70-130                 |
| Toluene-d8            | 107              |      | 108               |      | 70-130                 |
| 4-Bromofluorobenzene  | 105              |      | 107               |      | 70-130                 |
| Dibromofluoromethane  | 100              |      | 98                |      | 70-130                 |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411856  
**Report Date:** 03/12/24

| Parameter                                                                                               | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02,04 Batch: WG1895059-3 WG1895059-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                 | 98               |      | 110               |      | 70-130              | 12  |      | 20            |
| Toluene                                                                                                 | 100              |      | 110               |      | 70-130              | 10  |      | 20            |
| Ethylbenzene                                                                                            | 99               |      | 110               |      | 70-130              | 11  |      | 20            |
| p/m-Xylene                                                                                              | 100              |      | 105               |      | 70-130              | 5   |      | 20            |
| o-Xylene                                                                                                | 95               |      | 100               |      | 70-130              | 5   |      | 20            |
| Naphthalene                                                                                             | 85               |      | 98                |      | 70-130              | 14  |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 114              |      | 111               |      | 70-130                 |
| Toluene-d8            | 111              |      | 109               |      | 70-130                 |
| 4-Bromofluorobenzene  | 107              |      | 108               |      | 70-130                 |
| Dibromofluoromethane  | 106              |      | 105               |      | 70-130                 |



**Project Name:** COA GW  
**Project Number:** 21010210

Serial\_No:03122409:57  
**Lab Number:** L2411856  
**Report Date:** 03/12/24

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

|               |                     |
|---------------|---------------------|
| <b>Cooler</b> | <b>Custody Seal</b> |
| A             | Absent              |

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial pH</b> | <b>Final pH</b> | <b>Temp deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-------------------|-----------------|-------------------|-------------|-------------|-------------------------|--------------------|
| L2411856-01A        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411856-01B        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411856-01C        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411856-02A        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411856-02B        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411856-02C        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411856-03A        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411856-03B        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411856-03C        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411856-04A        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411856-04B        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411856-04C        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411856-05A        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411856-05B        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411856-05C        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411856-06A        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411856-06B        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411856-06C        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2411856-06D        | Vial HCl preserved    | A             | NA                |                 | 4.3               | Y           | Absent      |                         | PA-8260(14)        |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411856  
**Report Date:** 03/12/24

## GLOSSARY

### Acronyms

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DL       | - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                |
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                                                                                         |
| EMPC     | - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.                                                                                                                                                                                                                               |
| EPA      | - Environmental Protection Agency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                          |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                         |
| LOD      | - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                                                               |
| LOQ      | - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)<br><br>Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                          |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.                                                                                                                                                                                                    |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NA       | - Not Applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.                                                                                                                                                                                                                                                                                                                                                                           |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NI       | - Not Ignitable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NR       | - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.                                                                                                                                                                                                                                                                                                                                                                    |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                                                                                                                                   |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.                                                                  |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.                                                                                                                                                                                                                                                                                                                                                                     |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TEF      | - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.                                                                                                                                                                                                                                                                                                                                                                                             |
| TEQ      | - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.                                                                                                                                                                                                                                                                                                                                                        |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.                                                                                                                                                                                                                                                                      |

Report Format: DU Report with 'J' Qualifiers



**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2411856  
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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:** 21010210

**Lab Number:** L2411856  
**Report Date:** 03/12/24

#### Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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:** L2411856  
**Report Date:** 03/12/24

## 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.





**Alpha Analytical, Inc.**Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 20

Published Date: 6/16/2023 4:52:28 PM

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**Certification Information****The following analytes are not included in our Primary NELAP Scope of Accreditation:****Westborough Facility****EPA 624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625.1:** alpha-Terpineol**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility****SM 2540D:** TSS.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B**The following analytes are included in our Massachusetts DEP Scope of Accreditation****Westborough Facility:****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).**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

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WESTBORO, MA  
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FAX: 508-898-9103

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 #:

## Turn-Around Time

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

Date Due:

Time:

Date Rec'd in Lab: 3/16/24

ALPHA Job #: L2411856

## 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

## 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 pH &gt; 10

## SAMPLE HANDLING

Filtration \_\_\_\_\_  
☐ Done  
☐ Not needed  
☐ Lab to do  
 Preservation  
☐ Lab to do  
 (Please specify below)

Sample Specific Comments

| ALPHA Lab ID<br>(Lab Use Only) | Sample ID   | Collection |      | Sample<br>Matrix | Sampler's<br>Initials | ANALYSIS<br>BTX & Naphthalene | TOTAL #<br>BOTTLES |
|--------------------------------|-------------|------------|------|------------------|-----------------------|-------------------------------|--------------------|
|                                |             | Date       | Time |                  |                       |                               |                    |
| 11856 -01                      | C023-PZM008 | 3/5/24     | 1240 | GW               | TP                    | PH > 10                       | 3                  |
| -02                            | C025-PZM008 |            | 1325 | GW               |                       |                               | 3                  |
| -03                            | C026-PZM007 |            | 1400 | GW               |                       |                               | 3                  |
| -04                            | C056-PZP001 |            | 1510 | GW               |                       |                               | 3                  |
| -05                            | C058-PZM001 |            | 1550 | GW               |                       |                               | 3                  |
| -06                            | TB-WT-Q1    |            |      |                  |                       |                               | 4                  |

Rel: 3/6/24 0230  
 3/6/24 0230

Container Type

Preservative

Relinquished By:

Date/Time

Received By:

Date/Time

APM  
 Anthony Green  
 3/5/24 1550  
 3/5/24 1800  
 3/5/24 2100  
 3/6/24 0015

3/5/24 1550  
 3/5/24 1800  
 3/5/24 2100  
 3/6/24 0015

Anthony Green  
 3/5/24 1550  
 3/5/24 1800  
 3/5/24 2100  
 3/6/24 0015

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:     | L2413374                                                                    |
| Client:         | Tradepoint Atlantic<br>1600 Sparrows Point Boulevard<br>Baltimore, MD 21219 |
| ATTN:           | Robert Tworkowski                                                           |
| Phone:          | (443) 649-5073                                                              |
| Project Name:   | COA GW Q1                                                                   |
| Project Number: | 21010210                                                                    |
| Report Date:    | 03/19/24                                                                    |

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

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



**Project Name:** COA GW Q1  
**Project Number:** 21010210

**Lab Number:** L2413374  
**Report Date:** 03/19/24

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L2413374-01                | CO24-PZM007      | WATER         | Not Specified              | 03/11/24 12:20                  | 03/12/24            |
| L2413374-02                | CO59-PZP002      | WATER         | Not Specified              | 03/11/24 13:00                  | 03/12/24            |
| L2413374-03                | CO37-PZM038      | WATER         | Not Specified              | 03/11/24 14:55                  | 03/12/24            |
| L2413374-04                | CO37-PZM003      | WATER         | Not Specified              | 03/12/24 13:20                  | 03/12/24            |
| L2413374-05                | CO190-PZM        | WATER         | Not Specified              | 03/12/24 14:05                  | 03/12/24            |
| L2413374-06                | CO93-PZM         | WATER         | Not Specified              | 03/12/24 14:55                  | 03/12/24            |
| L2413374-07                | TB-WT-01         | WATER         | Not Specified              | 03/11/24 00:00                  | 03/12/24            |

**Project Name:** COA GW Q1  
**Project Number:** 21010210

**Lab Number:** L2413374  
**Report Date:** 03/19/24

### 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.

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**Project Name:** COA GW Q1  
**Project Number:** 21010210

**Lab Number:** L2413374  
**Report Date:** 03/19/24

### 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

L2413374-04: The pH was greater than two; however, the sample was analyzed within the method required holding time.

L2413374-04: The surrogate recovery is below the acceptance criteria for dibromofluoromethane (58%), possibly due to the matrix effect caused by the high pH of the sample (>10).

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: 03/19/24

# ORGANICS

# **VOLATILES**

**Project Name:** COA GW Q1**Lab Number:** L2413374**Project Number:** 21010210**Report Date:** 03/19/24**SAMPLE RESULTS**

Lab ID: L2413374-01 D

Date Collected: 03/11/24 12:20

Client ID: CO24-PZM007

Date Received: 03/12/24

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 03/15/24 16:02

Analyst: PID

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 3.5    | J         | ug/l  | 5.0 | 1.6 | 10              |
| Toluene                                      | 2.0    | J         | ug/l  | 7.5 | 2.0 | 10              |
| Ethylbenzene                                 | 2.5    | J         | ug/l  | 5.0 | 1.7 | 10              |
| p/m-Xylene                                   | ND     |           | ug/l  | 10  | 3.3 | 10              |
| o-Xylene                                     | ND     |           | ug/l  | 10  | 3.9 | 10              |
| Xylenes, Total                               | ND     |           | ug/l  | 10  | 3.3 | 10              |
| Naphthalene                                  | 1600   |           | ug/l  | 10  | 2.2 | 10              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 109        |           | 70-130              |
| Toluene-d8            | 101        |           | 70-130              |
| 4-Bromofluorobenzene  | 98         |           | 70-130              |
| Dibromofluoromethane  | 107        |           | 70-130              |

Project Name: COA GW Q1

Lab Number: L2413374

Project Number: 21010210

Report Date: 03/19/24

## SAMPLE RESULTS

Lab ID: L2413374-02  
 Client ID: CO59-PZP002  
 Sample Location: Not Specified

Date Collected: 03/11/24 13:00  
 Date Received: 03/12/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 03/15/24 14:11  
 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 | 112        |           | 70-130              |
| Toluene-d8            | 102        |           | 70-130              |
| 4-Bromofluorobenzene  | 101        |           | 70-130              |
| Dibromofluoromethane  | 110        |           | 70-130              |



**Project Name:** COA GW Q1**Lab Number:** L2413374**Project Number:** 21010210**Report Date:** 03/19/24**SAMPLE RESULTS**

Lab ID: L2413374-03 D

Date Collected: 03/11/24 14:55

Client ID: CO37-PZM038

Date Received: 03/12/24

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 03/15/24 15:39

Analyst: PID

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 17000  |           | ug/l  | 100 | 32. | 200             |
| Toluene                                      | 7800   |           | ug/l  | 150 | 41. | 200             |
| Ethylbenzene                                 | 230    |           | ug/l  | 100 | 33. | 200             |
| p/m-Xylene                                   | 1500   |           | ug/l  | 200 | 66. | 200             |
| o-Xylene                                     | 470    |           | ug/l  | 200 | 78. | 200             |
| Xylenes, Total                               | 2000   |           | ug/l  | 200 | 66. | 200             |
| Naphthalene                                  | 1300   |           | ug/l  | 200 | 43. | 200             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 103        |           | 70-130              |
| Toluene-d8            | 97         |           | 70-130              |
| 4-Bromofluorobenzene  | 102        |           | 70-130              |
| Dibromofluoromethane  | 101        |           | 70-130              |

Project Name: COA GW Q1

Lab Number: L2413374

Project Number: 21010210

Report Date: 03/19/24

## SAMPLE RESULTS

Lab ID: L2413374-04  
 Client ID: CO37-PZM003  
 Sample Location: Not Specified

Date Collected: 03/12/24 13:20  
 Date Received: 03/12/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 03/15/24 14:33  
 Analyst: PID

| Parameter                                    | Result | Qualifier | Units | RL   | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |      |                 |
| Benzene                                      | 66     |           | ug/l  | 0.50 | 0.16 | 1               |
| Toluene                                      | 52     |           | ug/l  | 0.75 | 0.20 | 1               |
| Ethylbenzene                                 | 5.3    |           | ug/l  | 0.50 | 0.17 | 1               |
| p/m-Xylene                                   | 55     |           | ug/l  | 1.0  | 0.33 | 1               |
| o-Xylene                                     | 22     |           | ug/l  | 1.0  | 0.39 | 1               |
| Xylenes, Total                               | 77     |           | ug/l  | 1.0  | 0.33 | 1               |
| Naphthalene                                  | 75     |           | ug/l  | 1.0  | 0.22 | 1               |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 106        |           | 70-130              |
| Toluene-d8            | 101        |           | 70-130              |
| 4-Bromofluorobenzene  | 96         |           | 70-130              |
| Dibromofluoromethane  | 58         | Q         | 70-130              |

**Project Name:** COA GW Q1  
**Project Number:** 21010210

**Lab Number:** L2413374  
**Report Date:** 03/19/24

**SAMPLE RESULTS**

Lab ID: L2413374-05 D  
 Client ID: CO190-PZM  
 Sample Location: Not Specified

Date Collected: 03/12/24 14:05  
 Date Received: 03/12/24  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 03/15/24 15:17  
 Analyst: PID

| Parameter                                    | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |     |                 |
| Benzene                                      | 270000 |           | ug/l  | 1200 | 400 | 2500            |
| Toluene                                      | 16000  |           | ug/l  | 1900 | 510 | 2500            |
| Ethylbenzene                                 | ND     |           | ug/l  | 1200 | 420 | 2500            |
| p/m-Xylene                                   | ND     |           | ug/l  | 2500 | 830 | 2500            |
| o-Xylene                                     | ND     |           | ug/l  | 2500 | 980 | 2500            |
| Xylenes, Total                               | ND     |           | ug/l  | 2500 | 830 | 2500            |
| Naphthalene                                  | ND     |           | ug/l  | 2500 | 540 | 2500            |

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

Project Name: COA GW Q1

Lab Number: L2413374

Project Number: 21010210

Report Date: 03/19/24

## SAMPLE RESULTS

Lab ID: L2413374-06 D

Date Collected: 03/12/24 14:55

Client ID: CO93-PZM

Date Received: 03/12/24

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 03/18/24 15:49

Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |     |                 |
| Benzene                                      | 140000 |           | ug/l  | 500  | 160 | 1000            |
| Toluene                                      | 50000  |           | ug/l  | 750  | 200 | 1000            |
| Ethylbenzene                                 | 1000   |           | ug/l  | 500  | 170 | 1000            |
| p/m-Xylene                                   | 9400   |           | ug/l  | 1000 | 330 | 1000            |
| o-Xylene                                     | 3000   |           | ug/l  | 1000 | 390 | 1000            |
| Xylenes, Total                               | 12000  |           | ug/l  | 1000 | 330 | 1000            |
| Naphthalene                                  | 1700   |           | ug/l  | 1000 | 220 | 1000            |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 97         |           | 70-130              |
| Toluene-d8            | 103        |           | 70-130              |
| 4-Bromofluorobenzene  | 104        |           | 70-130              |
| Dibromofluoromethane  | 99         |           | 70-130              |

**Project Name:** COA GW Q1  
**Project Number:** 21010210

**Lab Number:** L2413374  
**Report Date:** 03/19/24

**SAMPLE RESULTS**

**Lab ID:** L2413374-07  
**Client ID:** TB-WT-01  
**Sample Location:** Not Specified

**Date Collected:** 03/11/24 00:00  
**Date Received:** 03/12/24  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 03/15/24 13:48  
**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 | 112        |           | 70-130              |
| Toluene-d8            | 102        |           | 70-130              |
| 4-Bromofluorobenzene  | 102        |           | 70-130              |
| Dibromofluoromethane  | 108        |           | 70-130              |



**Project Name:** COA GW Q1  
**Project Number:** 21010210

**Lab Number:** L2413374  
**Report Date:** 03/19/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 03/15/24 08:14  
**Analyst:** PID

| Parameter                                                                               | Result | Qualifier | Units | RL   | MDL  |
|-----------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-05,07 Batch: WG1897277-5 |        |           |       |      |      |
| 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 | 102       |           | 70-130              |
| Toluene-d8            | 104       |           | 70-130              |
| 4-Bromofluorobenzene  | 103       |           | 70-130              |
| Dibromofluoromethane  | 102       |           | 70-130              |

**Project Name:** COA GW Q1  
**Project Number:** 21010210

**Lab Number:** L2413374  
**Report Date:** 03/19/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 03/18/24 08:03  
**Analyst:** MJV

| Parameter                                                                         | Result | Qualifier | Units | RL   | MDL  |
|-----------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 06 Batch: WG1897877-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 100       |           | 70-130                 |
| Toluene-d8            | 102       |           | 70-130                 |
| 4-Bromofluorobenzene  | 103       |           | 70-130                 |
| Dibromofluoromethane  | 103       |           | 70-130                 |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: COA GW Q1

Project Number: 21010210

Lab Number: L2413374

Report Date: 03/19/24

| Parameter                                                                                                  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|------------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05,07 Batch: WG1897277-3 WG1897277-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                    | 88               |      | 94                |      | 70-130              | 7   |      | 20            |
| Toluene                                                                                                    | 91               |      | 97                |      | 70-130              | 6   |      | 20            |
| Ethylbenzene                                                                                               | 89               |      | 95                |      | 70-130              | 7   |      | 20            |
| p/m-Xylene                                                                                                 | 90               |      | 95                |      | 70-130              | 5   |      | 20            |
| o-Xylene                                                                                                   | 85               |      | 95                |      | 70-130              | 11  |      | 20            |
| Naphthalene                                                                                                | 80               |      | 92                |      | 70-130              | 14  |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 102              |      | 102               |      | 70-130                 |
| Toluene-d8            | 106              |      | 106               |      | 70-130                 |
| 4-Bromofluorobenzene  | 100              |      | 106               |      | 70-130                 |
| Dibromofluoromethane  | 99               |      | 98                |      | 70-130                 |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: COA GW Q1

Project Number: 21010210

Lab Number: L2413374

Report Date: 03/19/24

| Parameter                                                                                            | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 06 Batch: WG1897877-3 WG1897877-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                              | 96               |      | 86                |      | 70-130              | 11  |      | 20            |
| Toluene                                                                                              | 100              |      | 88                |      | 70-130              | 13  |      | 20            |
| Ethylbenzene                                                                                         | 97               |      | 85                |      | 70-130              | 13  |      | 20            |
| p/m-Xylene                                                                                           | 95               |      | 85                |      | 70-130              | 11  |      | 20            |
| o-Xylene                                                                                             | 95               |      | 85                |      | 70-130              | 11  |      | 20            |
| Naphthalene                                                                                          | 92               |      | 82                |      | 70-130              | 11  |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 102              |      | 102               |      | 70-130                 |
| Toluene-d8            | 107              |      | 105               |      | 70-130                 |
| 4-Bromofluorobenzene  | 106              |      | 103               |      | 70-130                 |
| Dibromofluoromethane  | 100              |      | 99                |      | 70-130                 |

**Project Name:** COA GW Q1  
**Project Number:** 21010210

Serial\_No:03192412:29  
**Lab Number:** L2413374  
**Report Date:** 03/19/24

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

|               |                     |
|---------------|---------------------|
| <b>Cooler</b> | <b>Custody Seal</b> |
| A             | Absent              |

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial pH</b> | <b>Final pH</b> | <b>Temp deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-------------------|-----------------|-------------------|-------------|-------------|-------------------------|--------------------|
| L2413374-01A        | Vial HCl preserved    | A             | NA                |                 | 4.0               | Y           | Absent      |                         | PA-8260(14)        |
| L2413374-01B        | Vial HCl preserved    | A             | NA                |                 | 4.0               | Y           | Absent      |                         | PA-8260(14)        |
| L2413374-01C        | Vial HCl preserved    | A             | NA                |                 | 4.0               | Y           | Absent      |                         | PA-8260(14)        |
| L2413374-02A        | Vial HCl preserved    | A             | NA                |                 | 4.0               | Y           | Absent      |                         | PA-8260(14)        |
| L2413374-02B        | Vial HCl preserved    | A             | NA                |                 | 4.0               | Y           | Absent      |                         | PA-8260(14)        |
| L2413374-02C        | Vial HCl preserved    | A             | NA                |                 | 4.0               | Y           | Absent      |                         | PA-8260(14)        |
| L2413374-03A        | Vial HCl preserved    | A             | NA                |                 | 4.0               | Y           | Absent      |                         | PA-8260(14)        |
| L2413374-03B        | Vial HCl preserved    | A             | NA                |                 | 4.0               | Y           | Absent      |                         | PA-8260(14)        |
| L2413374-03C        | Vial HCl preserved    | A             | NA                |                 | 4.0               | Y           | Absent      |                         | PA-8260(14)        |
| L2413374-04A        | Vial HCl preserved    | A             | NA                |                 | 4.0               | Y           | Absent      |                         | PA-8260(14)        |
| L2413374-04B        | Vial HCl preserved    | A             | NA                |                 | 4.0               | Y           | Absent      |                         | PA-8260(14)        |
| L2413374-04C        | Vial HCl preserved    | A             | NA                |                 | 4.0               | Y           | Absent      |                         | PA-8260(14)        |
| L2413374-05A        | Vial HCl preserved    | A             | NA                |                 | 4.0               | Y           | Absent      |                         | PA-8260(14)        |
| L2413374-05B        | Vial HCl preserved    | A             | NA                |                 | 4.0               | Y           | Absent      |                         | PA-8260(14)        |
| L2413374-05C        | Vial HCl preserved    | A             | NA                |                 | 4.0               | Y           | Absent      |                         | PA-8260(14)        |
| L2413374-06A        | Vial HCl preserved    | A             | NA                |                 | 4.0               | Y           | Absent      |                         | PA-8260(14)        |
| L2413374-06B        | Vial HCl preserved    | A             | NA                |                 | 4.0               | Y           | Absent      |                         | PA-8260(14)        |
| L2413374-06C        | Vial HCl preserved    | A             | NA                |                 | 4.0               | Y           | Absent      |                         | PA-8260(14)        |
| L2413374-07A        | Vial HCl preserved    | A             | NA                |                 | 4.0               | Y           | Absent      |                         | PA-8260(14)        |
| L2413374-07B        | Vial HCl preserved    | A             | NA                |                 | 4.0               | Y           | Absent      |                         | PA-8260(14)        |
| L2413374-07C        | Vial HCl preserved    | A             | NA                |                 | 4.0               | Y           | Absent      |                         | PA-8260(14)        |
| L2413374-07D        | Vial HCl preserved    | A             | NA                |                 | 4.0               | Y           | Absent      |                         | PA-8260(14)        |

**Project Name:** COA GW Q1  
**Project Number:** 21010210

**Lab Number:** L2413374  
**Report Date:** 03/19/24

## GLOSSARY

### Acronyms

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DL       | - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                |
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                                                                                         |
| EMPC     | - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.                                                                                                                                                                                                                               |
| EPA      | - Environmental Protection Agency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                          |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                         |
| LOD      | - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                                                               |
| LOQ      | - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)<br><br>Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                          |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.                                                                                                                                                                                                    |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NA       | - Not Applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.                                                                                                                                                                                                                                                                                                                                                                           |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NI       | - Not Ignitable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NR       | - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.                                                                                                                                                                                                                                                                                                                                                                    |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                                                                                                                                   |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.                                                                  |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.                                                                                                                                                                                                                                                                                                                                                                     |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TEF      | - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.                                                                                                                                                                                                                                                                                                                                                                                             |
| TEQ      | - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.                                                                                                                                                                                                                                                                                                                                                        |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.                                                                                                                                                                                                                                                                      |

Report Format: DU Report with 'J' Qualifiers





**Project Name:** COA GW Q1  
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**Lab Number:** L2413374  
**Report Date:** 03/19/24

## 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 Q1  
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#### Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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 Q1  
**Project Number:** 21010210

**Lab Number:** L2413374  
**Report Date:** 03/19/24

## 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.



**Alpha Analytical, Inc.**Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 20

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**Certification Information**

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

**Westborough Facility****EPA 624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625.1:** alpha-Terpineol**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility****SM 2540D:** TSS.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

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

**Westborough Facility:****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).**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:     | L2434356                                                                    |
| Client:         | Tradepoint Atlantic<br>1600 Sparrows Point Boulevard<br>Baltimore, MD 21219 |
| ATTN:           | Robert Tworkowski                                                           |
| Phone:          | (443) 649-5073                                                              |
| Project Name:   | COA Q2 GW                                                                   |
| Project Number: | 21010210                                                                    |
| Report Date:    | 06/25/24                                                                    |

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-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

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**Project Name:** COA Q2 GW  
**Project Number:** 21010210

**Lab Number:** L2434356  
**Report Date:** 06/25/24

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L2434356-01                | CO93-PZM         | WATER         | Not Specified              | 06/18/24 14:05                  | 06/18/24            |
| L2434356-02                | TB-WT-01         | WATER         | Not Specified              | 06/18/24 00:00                  | 06/18/24            |

**Project Name:** COA Q2 GW  
**Project Number:** 21010210

**Lab Number:** L2434356  
**Report Date:** 06/25/24

### 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.

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**Project Name:** COA Q2 GW  
**Project Number:** 21010210

**Lab Number:** L2434356  
**Report Date:** 06/25/24

### 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

L2434356-01: The sample identified as "CO93-PZM" on the chain of custody was identified as "CO193-PZM" on the container label. At the client's request, the sample is reported as "CO93-PZM".

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: 06/25/24

# ORGANICS

# VOLATILES

**Project Name:** COA Q2 GW  
**Project Number:** 21010210

**Lab Number:** L2434356  
**Report Date:** 06/25/24

**SAMPLE RESULTS**

Lab ID: L2434356-01 D  
 Client ID: CO93-PZM  
 Sample Location: Not Specified

Date Collected: 06/18/24 14:05  
 Date Received: 06/18/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 06/23/24 17:39  
 Analyst: MAG

| Parameter                                    | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |     |                 |
| Benzene                                      | 200000 |           | ug/l  | 500  | 160 | 1000            |
| Toluene                                      | 65000  |           | ug/l  | 750  | 200 | 1000            |
| Ethylbenzene                                 | 1400   |           | ug/l  | 500  | 170 | 1000            |
| p/m-Xylene                                   | 13000  |           | ug/l  | 1000 | 330 | 1000            |
| o-Xylene                                     | 4100   |           | ug/l  | 1000 | 390 | 1000            |
| Xylenes, Total                               | 17000  |           | ug/l  | 1000 | 330 | 1000            |
| Naphthalene                                  | 1900   |           | ug/l  | 1000 | 220 | 1000            |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 106        |           | 70-130              |
| Toluene-d8            | 101        |           | 70-130              |
| 4-Bromofluorobenzene  | 107        |           | 70-130              |
| Dibromofluoromethane  | 92         |           | 70-130              |



**Project Name:** COA Q2 GW  
**Project Number:** 21010210

**Lab Number:** L2434356  
**Report Date:** 06/25/24

**SAMPLE RESULTS**

**Lab ID:** L2434356-02  
**Client ID:** TB-WT-01  
**Sample Location:** Not Specified

**Date Collected:** 06/18/24 00:00  
**Date Received:** 06/18/24  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 06/23/24 17:14  
**Analyst:** MAG

| 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 | 116        |           | 70-130              |
| Toluene-d8            | 98         |           | 70-130              |
| 4-Bromofluorobenzene  | 107        |           | 70-130              |
| Dibromofluoromethane  | 104        |           | 70-130              |

**Project Name:** COA Q2 GW  
**Project Number:** 21010210

**Lab Number:** L2434356  
**Report Date:** 06/25/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 06/23/24 09:11  
**Analyst:** PID

| Parameter                                                                            | Result | Qualifier | Units | RL   | MDL  |
|--------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1938309-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 116       |           | 70-130                 |
| Toluene-d8            | 99        |           | 70-130                 |
| 4-Bromofluorobenzene  | 107       |           | 70-130                 |
| Dibromofluoromethane  | 99        |           | 70-130                 |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: COA Q2 GW

Project Number: 21010210

Lab Number: L2434356

Report Date: 06/25/24

| Parameter                                                                                               | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1938309-3 WG1938309-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                 | 120              |      | 120               |      | 70-130              | 0   |      | 20            |
| Toluene                                                                                                 | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| Ethylbenzene                                                                                            | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| p/m-Xylene                                                                                              | 110              |      | 105               |      | 70-130              | 5   |      | 20            |
| o-Xylene                                                                                                | 110              |      | 105               |      | 70-130              | 5   |      | 20            |
| Naphthalene                                                                                             | 80               |      | 93                |      | 70-130              | 15  |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 114              |      | 116               |      | 70-130                 |
| Toluene-d8            | 103              |      | 102               |      | 70-130                 |
| 4-Bromofluorobenzene  | 107              |      | 104               |      | 70-130                 |
| Dibromofluoromethane  | 93               |      | 92                |      | 70-130                 |

**Project Name:** COA Q2 GW**Lab Number:** L2434356**Project Number:** 21010210**Report Date:** 06/25/24**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

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

A                                  Absent

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|--------------------|
| L2434356-01A        | Vial HCl preserved    | A             | NA                    |                     | 3.2                   | Y           | Absent      |                             | PA-8260(14)        |
| L2434356-01B        | Vial HCl preserved    | A             | NA                    |                     | 3.2                   | Y           | Absent      |                             | PA-8260(14)        |
| L2434356-01C        | Vial HCl preserved    | A             | NA                    |                     | 3.2                   | Y           | Absent      |                             | PA-8260(14)        |
| L2434356-02A        | Vial HCl preserved    | A             | NA                    |                     | 3.2                   | Y           | Absent      |                             | PA-8260(14)        |
| L2434356-02B        | Vial HCl preserved    | A             | NA                    |                     | 3.2                   | Y           | Absent      |                             | PA-8260(14)        |
| L2434356-02C        | Vial HCl preserved    | A             | NA                    |                     | 3.2                   | Y           | Absent      |                             | PA-8260(14)        |
| L2434356-02D        | Vial HCl preserved    | A             | NA                    |                     | 3.2                   | Y           | Absent      |                             | PA-8260(14)        |

**Project Name:** COA Q2 GW**Lab Number:** L2434356**Project Number:** 21010210**Report Date:** 06/25/24

## GLOSSARY

### Acronyms

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DL       | - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                |
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                                                                                         |
| EMPC     | - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.                                                                                                                                                                                                                               |
| EPA      | - Environmental Protection Agency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                          |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                         |
| LOD      | - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                                                               |
| LOQ      | - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)<br><br>Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                          |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.                                                                                                                                                                                                    |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NA       | - Not Applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.                                                                                                                                                                                                                                                                                                                                                                           |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NI       | - Not Ignitable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NR       | - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.                                                                                                                                                                                                                                                                                                                                                                    |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                                                                                                                                   |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.                                                                  |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.                                                                                                                                                                                                                                                                                                                                                                     |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TEF      | - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.                                                                                                                                                                                                                                                                                                                                                                                             |
| TEQ      | - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.                                                                                                                                                                                                                                                                                                                                                        |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.                                                                                                                                                                                                                                                                      |

*Report Format: DU Report with 'J' Qualifiers*

**Project Name:** COA Q2 GW  
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**Lab Number:** L2434356  
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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 Q2 GW  
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#### Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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 Q2 GW  
**Project Number:** 21010210

**Lab Number:** L2434356  
**Report Date:** 06/25/24

## 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.



**Alpha Analytical, Inc.**Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 21

Published Date: 04/17/2024

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**Certification Information**

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

**Westborough Facility****EPA 624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625.1:** alpha-Terpineol**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility****SM 2540D:** TSS.**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.

**Nonpotable Water:** **EPA RSK-175 Dissolved Gases****Biological Tissue Matrix:** EPA 3050B

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

**Westborough Facility:****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, 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:     | L2432049                                                                    |
| Client:         | Tradepoint Atlantic<br>1600 Sparrows Point Boulevard<br>Baltimore, MD 21219 |
| ATTN:           | Robert Tworkowski                                                           |
| Phone:          | (443) 649-5073                                                              |
| Project Name:   | COA GW Q3 2024                                                              |
| Project Number: | 21010210                                                                    |
| Report Date:    | 06/14/24                                                                    |

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

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



**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432049  
**Report Date:** 06/14/24

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L2432049-01                | CO201-MWS        | WATER         | Not Specified              | 06/06/24 09:45                  | 06/07/24            |
| L2432049-02                | CO30-PZM015      | WATER         | Not Specified              | 06/06/24 10:30                  | 06/07/24            |
| L2432049-03                | CO30-PZM060      | WATER         | Not Specified              | 06/06/24 11:45                  | 06/07/24            |
| L2432049-04                | CO198-MWS        | WATER         | Not Specified              | 06/06/24 12:35                  | 06/07/24            |
| L2432049-05                | CO194-MWS        | WATER         | Not Specified              | 06/06/24 13:20                  | 06/07/24            |
| L2432049-06                | CO195-MWS        | WATER         | Not Specified              | 06/06/24 14:25                  | 06/07/24            |
| L2432049-07                | CO196-MWS        | WATER         | Not Specified              | 06/06/24 15:10                  | 06/07/24            |
| L2432049-08                | TB-WT-01         | WATER         | Not Specified              | 06/06/24 00:00                  | 06/07/24            |



**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432049  
**Report Date:** 06/14/24

### 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.

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**Project Name:** COA GW Q3 2024**Lab Number:** L2432049**Project Number:** 21010210**Report Date:** 06/14/24**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

L2432049-04D, -05D2, and -05D: 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.

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: 06/14/24

# ORGANICS

# **VOLATILES**

**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432049  
**Report Date:** 06/14/24

**SAMPLE RESULTS**

**Lab ID:** L2432049-01  
**Client ID:** CO201-MWS  
**Sample Location:** Not Specified

**Date Collected:** 06/06/24 09:45  
**Date Received:** 06/07/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 06/14/24 03:45  
**Analyst:** MKS

| Parameter                                    | Result | Qualifier | Units | RL   | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |      |                 |
| Benzene                                      | 42     |           | ug/l  | 0.50 | 0.16 | 1               |
| Toluene                                      | 2.0    |           | ug/l  | 0.75 | 0.20 | 1               |
| Ethylbenzene                                 | 0.21   | J         | ug/l  | 0.50 | 0.17 | 1               |
| p/m-Xylene                                   | 2.1    |           | ug/l  | 1.0  | 0.33 | 1               |
| o-Xylene                                     | 1.0    |           | ug/l  | 1.0  | 0.39 | 1               |
| Xylenes, Total                               | 3.1    |           | ug/l  | 1.0  | 0.33 | 1               |
| Naphthalene                                  | 11     |           | ug/l  | 1.0  | 0.22 | 1               |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 111        |           | 70-130              |
| Toluene-d8            | 105        |           | 70-130              |
| 4-Bromofluorobenzene  | 99         |           | 70-130              |
| Dibromofluoromethane  | 105        |           | 70-130              |

**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432049  
**Report Date:** 06/14/24

**SAMPLE RESULTS**

**Lab ID:** L2432049-02      D  
**Client ID:** CO30-PZM015  
**Sample Location:** Not Specified

**Date Collected:** 06/06/24 10:30  
**Date Received:** 06/07/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 06/14/24 04:09  
**Analyst:** MKS

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 32000  |           | ug/l  | 120 | 40. | 250             |
| Toluene                                      | 2600   |           | ug/l  | 190 | 51. | 250             |
| Ethylbenzene                                 | 75     | J         | ug/l  | 120 | 42. | 250             |
| p/m-Xylene                                   | 670    |           | ug/l  | 250 | 83. | 250             |
| o-Xylene                                     | 280    |           | ug/l  | 250 | 98. | 250             |
| Xylenes, Total                               | 950    |           | ug/l  | 250 | 83. | 250             |
| Naphthalene                                  | 1800   |           | ug/l  | 250 | 54. | 250             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 113        |           | 70-130              |
| Toluene-d8            | 108        |           | 70-130              |
| 4-Bromofluorobenzene  | 98         |           | 70-130              |
| Dibromofluoromethane  | 99         |           | 70-130              |



**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432049  
**Report Date:** 06/14/24

**SAMPLE RESULTS**

**Lab ID:** L2432049-03  
**Client ID:** CO30-PZM060  
**Sample Location:** Not Specified

**Date Collected:** 06/06/24 11:45  
**Date Received:** 06/07/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 06/14/24 04:34  
**Analyst:** MKS

| Parameter                                    | Result | Qualifier | Units | RL   | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |      |                 |
| Benzene                                      | 99     |           | ug/l  | 0.50 | 0.16 | 1               |
| Toluene                                      | 6.7    |           | ug/l  | 0.75 | 0.20 | 1               |
| Ethylbenzene                                 | 0.33   | J         | ug/l  | 0.50 | 0.17 | 1               |
| p/m-Xylene                                   | 2.4    |           | ug/l  | 1.0  | 0.33 | 1               |
| o-Xylene                                     | 0.90   | J         | ug/l  | 1.0  | 0.39 | 1               |
| Xylenes, Total                               | 3.3    | J         | ug/l  | 1.0  | 0.33 | 1               |
| Naphthalene                                  | 5.3    |           | ug/l  | 1.0  | 0.22 | 1               |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 113        |           | 70-130              |
| Toluene-d8            | 105        |           | 70-130              |
| 4-Bromofluorobenzene  | 98         |           | 70-130              |
| Dibromofluoromethane  | 101        |           | 70-130              |

**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432049  
**Report Date:** 06/14/24

**SAMPLE RESULTS**

Lab ID: L2432049-04 D  
 Client ID: CO198-MWS  
 Sample Location: Not Specified

Date Collected: 06/06/24 12:35  
 Date Received: 06/07/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 06/14/24 05:47  
 Analyst: MKS

| 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                                      | 72     |           | ug/l  | 7.5 | 2.0 | 10              |
| Ethylbenzene                                 | 2.6    | J         | ug/l  | 5.0 | 1.7 | 10              |
| p/m-Xylene                                   | 24     |           | ug/l  | 10  | 3.3 | 10              |
| o-Xylene                                     | 10     |           | ug/l  | 10  | 3.9 | 10              |
| Xylenes, Total                               | 34     |           | ug/l  | 10  | 3.3 | 10              |
| Naphthalene                                  | 1700   |           | ug/l  | 10  | 2.2 | 10              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 114        |           | 70-130              |
| Toluene-d8            | 107        |           | 70-130              |
| 4-Bromofluorobenzene  | 95         |           | 70-130              |
| Dibromofluoromethane  | 102        |           | 70-130              |

**Project Name:** COA GW Q3 2024**Lab Number:** L2432049**Project Number:** 21010210**Report Date:** 06/14/24**SAMPLE RESULTS**

Lab ID: L2432049-05 D2

Date Collected: 06/06/24 13:20

Client ID: CO194-MWS

Date Received: 06/07/24

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 06/14/24 10:18

Analyst: MKS

| Parameter                                    | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |    |     |                 |
| Naphthalene                                  | 760    |           | ug/l  | 25 | 5.4 | 25              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 108        |           | 70-130              |
| Toluene-d8            | 99         |           | 70-130              |
| 4-Bromofluorobenzene  | 99         |           | 70-130              |
| Dibromofluoromethane  | 99         |           | 70-130              |

**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432049  
**Report Date:** 06/14/24

**SAMPLE RESULTS**

**Lab ID:** L2432049-05      **D**  
**Client ID:** CO194-MWS  
**Sample Location:** Not Specified

**Date Collected:** 06/06/24 13:20  
**Date Received:** 06/07/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 06/14/24 06:11  
**Analyst:** MKS

| Parameter                                    | Result | Qualifier | Units | RL  | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |      |                 |
| Benzene                                      | 320    |           | ug/l  | 2.5 | 0.80 | 5               |
| Toluene                                      | 65     |           | ug/l  | 3.8 | 1.0  | 5               |
| Ethylbenzene                                 | 2.4    | J         | ug/l  | 2.5 | 0.84 | 5               |
| p/m-Xylene                                   | 23     |           | ug/l  | 5.0 | 1.7  | 5               |
| o-Xylene                                     | 11     |           | ug/l  | 5.0 | 2.0  | 5               |
| Xylenes, Total                               | 34     |           | ug/l  | 5.0 | 1.7  | 5               |
| Naphthalene                                  | 1100   | E         | ug/l  | 5.0 | 1.1  | 5               |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 116        |           | 70-130              |
| Toluene-d8            | 107        |           | 70-130              |
| 4-Bromofluorobenzene  | 97         |           | 70-130              |
| Dibromofluoromethane  | 99         |           | 70-130              |

**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432049  
**Report Date:** 06/14/24

**SAMPLE RESULTS**

Lab ID: L2432049-06 D  
 Client ID: CO195-MWS  
 Sample Location: Not Specified

Date Collected: 06/06/24 14:25  
 Date Received: 06/07/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 06/14/24 04:58  
 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                                      | 1900   |           | ug/l  | 150 | 41. | 200             |
| Ethylbenzene                                 | 43     | J         | ug/l  | 100 | 33. | 200             |
| p/m-Xylene                                   | 400    |           | ug/l  | 200 | 66. | 200             |
| o-Xylene                                     | 150    | J         | ug/l  | 200 | 78. | 200             |
| Xylenes, Total                               | 550    | J         | ug/l  | 200 | 66. | 200             |
| Naphthalene                                  | 1300   |           | ug/l  | 200 | 43. | 200             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 113        |           | 70-130              |
| Toluene-d8            | 106        |           | 70-130              |
| 4-Bromofluorobenzene  | 96         |           | 70-130              |
| Dibromofluoromethane  | 104        |           | 70-130              |

**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432049  
**Report Date:** 06/14/24

**SAMPLE RESULTS**

**Lab ID:** L2432049-07      **D**  
**Client ID:** CO196-MWS  
**Sample Location:** Not Specified

**Date Collected:** 06/06/24 15:10  
**Date Received:** 06/07/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 06/14/24 05:23  
**Analyst:** MKS

| Parameter                                    | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |    |     |                 |
| Benzene                                      | 3900   |           | ug/l  | 12 | 4.0 | 25              |
| Toluene                                      | 290    |           | ug/l  | 19 | 5.1 | 25              |
| Ethylbenzene                                 | 11     | J         | ug/l  | 12 | 4.2 | 25              |
| p/m-Xylene                                   | 78     |           | ug/l  | 25 | 8.3 | 25              |
| o-Xylene                                     | 32     |           | ug/l  | 25 | 9.8 | 25              |
| Xylenes, Total                               | 110    |           | ug/l  | 25 | 8.3 | 25              |
| Naphthalene                                  | 550    |           | ug/l  | 25 | 5.4 | 25              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 112        |           | 70-130              |
| Toluene-d8            | 105        |           | 70-130              |
| 4-Bromofluorobenzene  | 98         |           | 70-130              |
| Dibromofluoromethane  | 101        |           | 70-130              |



**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432049  
**Report Date:** 06/14/24

**SAMPLE RESULTS**

**Lab ID:** L2432049-08  
**Client ID:** TB-WT-01  
**Sample Location:** Not Specified

**Date Collected:** 06/06/24 00:00  
**Date Received:** 06/07/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 06/14/24 03:21  
**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 | 116        |           | 70-130              |
| Toluene-d8            | 105        |           | 70-130              |
| 4-Bromofluorobenzene  | 97         |           | 70-130              |
| Dibromofluoromethane  | 106        |           | 70-130              |

**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432049  
**Report Date:** 06/14/24

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260D  
Analytical Date: 06/13/24 21:41  
Analyst: LAC

| Parameter                                                                            | Result | Qualifier | Units | RL   | MDL  |
|--------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-08 Batch: WG1934320-5 |        |           |       |      |      |
| 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 | 117       |           | 70-130              |
| Toluene-d8            | 101       |           | 70-130              |
| 4-Bromofluorobenzene  | 91        |           | 70-130              |
| Dibromofluoromethane  | 108       |           | 70-130              |

**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432049  
**Report Date:** 06/14/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 06/14/24 09:31  
**Analyst:** MKS

| Parameter                                                                         | Result | Qualifier | Units | RL   | MDL  |
|-----------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 05 Batch: WG1934429-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 107       |           | 70-130                 |
| Toluene-d8            | 99        |           | 70-130                 |
| 4-Bromofluorobenzene  | 102       |           | 70-130                 |
| Dibromofluoromethane  | 100       |           | 70-130                 |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: COA GW Q3 2024

Project Number: 21010210

Lab Number: L2432049

Report Date: 06/14/24

| Parameter                                                                                               | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08 Batch: WG1934320-3 WG1934320-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                 | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| Toluene                                                                                                 | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| Ethylbenzene                                                                                            | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| p/m-Xylene                                                                                              | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| o-Xylene                                                                                                | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| Naphthalene                                                                                             | 94               |      | 96                |      | 70-130              | 2   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 121              |      | 117               |      | 70-130                 |
| Toluene-d8            | 104              |      | 106               |      | 70-130                 |
| 4-Bromofluorobenzene  | 91               |      | 90                |      | 70-130                 |
| Dibromofluoromethane  | 109              |      | 105               |      | 70-130                 |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: COA GW Q3 2024

Project Number: 21010210

Lab Number: L2432049

Report Date: 06/14/24

| Parameter                                                                                            | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05 Batch: WG1934429-3 WG1934429-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                              | 96               |      | 96                |      | 70-130              | 0   |      | 20            |
| Toluene                                                                                              | 97               |      | 92                |      | 70-130              | 5   |      | 20            |
| Ethylbenzene                                                                                         | 94               |      | 92                |      | 70-130              | 2   |      | 20            |
| p/m-Xylene                                                                                           | 95               |      | 90                |      | 70-130              | 5   |      | 20            |
| o-Xylene                                                                                             | 95               |      | 90                |      | 70-130              | 5   |      | 20            |
| Naphthalene                                                                                          | 80               |      | 83                |      | 70-130              | 4   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 105              |      | 108               |      | 70-130                 |
| Toluene-d8            | 104              |      | 101               |      | 70-130                 |
| 4-Bromofluorobenzene  | 99               |      | 99                |      | 70-130                 |
| Dibromofluoromethane  | 95               |      | 96                |      | 70-130                 |

**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

Serial\_No:06142414:37  
**Lab Number:** L2432049  
**Report Date:** 06/14/24

**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(*) |
|--------------|--------------------|--------|------------|----------|------------|------|--------|------------------|-------------|
| L2432049-01A | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |
| L2432049-01B | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |
| L2432049-01C | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |
| L2432049-02A | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |
| L2432049-02B | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |
| L2432049-02C | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |
| L2432049-03A | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |
| L2432049-03B | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |
| L2432049-03C | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |
| L2432049-04A | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |
| L2432049-04B | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |
| L2432049-04C | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |
| L2432049-05A | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |
| L2432049-05B | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |
| L2432049-05C | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |
| L2432049-06A | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |
| L2432049-06B | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |
| L2432049-06C | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |
| L2432049-07A | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |
| L2432049-07B | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |
| L2432049-07C | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |
| L2432049-08A | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |
| L2432049-08B | Vial HCl preserved | A      | NA         |          | 4.1        | Y    | Absent |                  | PA-8260(14) |



**Project Name:** COA GW Q3 2024  
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**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|--------------------|
| L2432049-08C        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2432049-08D        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |

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**Report Date:** 06/14/24

## GLOSSARY

### Acronyms

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DL       | - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                |
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                                                                                         |
| EMPC     | - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.                                                                                                                                                                                                                               |
| EPA      | - Environmental Protection Agency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                          |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                         |
| LOD      | - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                                                               |
| LOQ      | - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)<br><br>Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                          |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.                                                                                                                                                                                                    |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NA       | - Not Applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.                                                                                                                                                                                                                                                                                                                                                                           |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NI       | - Not Ignitable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NR       | - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.                                                                                                                                                                                                                                                                                                                                                                    |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                                                                                                                                   |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.                                                                  |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.                                                                                                                                                                                                                                                                                                                                                                     |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TEF      | - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.                                                                                                                                                                                                                                                                                                                                                                                             |
| TEQ      | - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.                                                                                                                                                                                                                                                                                                                                                        |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.                                                                                                                                                                                                                                                                      |

Report Format: DU Report with 'J' Qualifiers



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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 Q3 2024  
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#### Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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 Q3 2024  
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**Lab Number:** L2432049  
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## 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.



**Alpha Analytical, Inc.**Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 21

Published Date: 04/17/2024

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**Certification Information****The following analytes are not included in our Primary NELAP Scope of Accreditation:****Westborough Facility****EPA 624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625.1:** alpha-Terpineol**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility****SM 2540D:** TSS.**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.

**Nonpotable Water:** **EPA RSK-175 Dissolved Gases****Biological Tissue Matrix:** EPA 3050B**The following analytes are included in our Massachusetts DEP Scope of Accreditation****Westborough Facility:****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, 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: COAGW Q3 2024

Project Location:

Project #: 21010210

Project Manager: Bob Tworkowski

ALPHA Quote #:

## Client Information

Client: TPA

Address:

Phone:

Fax:

Email: Btworkowski, Kowiller, J Barnea

☐ These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

All samples pH about 10

Date Rec'd in Lab: 6/18/24

ALPHA Job #: 12432049

## 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

Phone:

Fax:

Email: Btworkowski, Kowiller, J Barnea

☐ These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

All samples pH about 10

| ALPHA Lab ID<br>(Lab Use Only) | Sample ID   | Collection |       | Sample<br>Matrix | Sampler's<br>Initials |   |
|--------------------------------|-------------|------------|-------|------------------|-----------------------|---|
|                                |             | Date       | Time  |                  |                       |   |
| 32049-01                       | CO201-mws   | 6/6/24     | 9:45  | GW               | WLF                   | X |
| 02                             | CO30-PZM015 | 6/6/24     | 10:30 | GW               | WLF                   | X |
| 03                             | CO30-PZM060 | 6/6/24     | 11:45 | GW               | WLF                   | X |
| 04                             | CO198-mws   | 6/6/24     | 12:35 | GW               | WLF                   | X |
| 05                             | CO194-mws   | 6/6/24     | 13:20 | GW               | WLF                   | X |
| 06                             | CO195-mws   | 6/6/24     | 14:25 | GW               | WLF                   | X |
| 07                             | CO196-mws   | 6/6/24     | 15:10 | GW               | WLF                   | X |
| 08                             | TD-WT-01    | —          | —     | —                | —                     | X |

|                                            |                                                                                                                                                                                                                      |  |  |  |  |  |  |  |  |  |                       |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|-----------------------|
| ANALYSIS<br>BTEX + N2, H2S, CO2, CH4, 8260 | SAMPLE HANDLING                                                                                                                                                                                                      |  |  |  |  |  |  |  |  |  | TOTAL<br>#<br>BOTTLES |
|                                            | Filtration _____<br><input type="checkbox"/> Done<br><input type="checkbox"/> Not needed<br><input type="checkbox"/> Lab to do<br>Preservation _____<br><input type="checkbox"/> Lab to do<br>(Please specify below) |  |  |  |  |  |  |  |  |  |                       |
| Sample Specific Comments                   |                                                                                                                                                                                                                      |  |  |  |  |  |  |  |  |  |                       |

Rel: 562 6/18/24 0424

6/18/24 0424

Container Type Vol

Preservative HCl

Relinquished By:

Date/Time

Received By:

Date/Time

Anthony Green  
6/18/24 0424

6/18/24 1600  
6/17/24 1800  
6/18/24 2100  
6/18/24 0424

Anthony Green  
6/18/24 0424

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:     | L2432050                                                                    |
| Client:         | Tradepoint Atlantic<br>1600 Sparrows Point Boulevard<br>Baltimore, MD 21219 |
| ATTN:           | Robert Tworkowski                                                           |
| Phone:          | (443) 649-5073                                                              |
| Project Name:   | COAGW Q3 2024                                                               |
| Project Number: | 21010210                                                                    |
| Report Date:    | 06/14/24                                                                    |

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-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

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



Project Name: COAGW Q3 2024

Project Number: 21010210

Lab Number: L2432050

Report Date: 06/14/24

| Alpha<br>Sample ID | Client ID   | Matrix | Sample<br>Location | Collection<br>Date/Time | Receive Date |
|--------------------|-------------|--------|--------------------|-------------------------|--------------|
| L2432050-01        | CO56-PZP001 | WATER  | SPARROW POINT      | 06/07/24 10:15          | 06/07/24     |
| L2432050-02        | CO58-PZM001 | WATER  | SPARROW POINT      | 06/07/24 11:52          | 06/07/24     |
| L2432050-03        | CO206R-MWS  | WATER  | SPARROW POINT      | 06/07/24 13:10          | 06/07/24     |
| L2432050-04        | CO55-PZM000 | WATER  | SPARROW POINT      | 06/07/24 13:15          | 06/07/24     |
| L2432050-05        | CO26-PZM007 | WATER  | SPARROW POINT      | 06/07/24 13:25          | 06/07/24     |
| L2432050-06        | CO25-PZM008 | WATER  | SPARROW POINT      | 06/07/24 14:20          | 06/07/24     |
| L2432050-07        | CO41-PZM001 | WATER  | SPARROW POINT      | 06/07/24 10:25          | 06/07/24     |
| L2432050-08        | CO41-PZM036 | WATER  | SPARROW POINT      | 06/07/24 11:00          | 06/07/24     |
| L2432050-09        | CO59-PZP002 | WATER  | SPARROW POINT      | 06/07/24 13:45          | 06/07/24     |
| L2432050-10        | CO23-PZM008 | WATER  | SPARROW POINT      | 06/07/24 13:00          | 06/07/24     |
| L2432050-11        | CO191-MWS   | WATER  | SPARROW POINT      | 06/07/24 09:40          | 06/07/24     |
| L2432050-12        | CO24-PZM007 | WATER  | SPARROW POINT      | 06/07/24 12:00          | 06/07/24     |
| L2432050-13        | TB-WT-01    | WATER  | SPARROW POINT      | 06/07/24 00:00          | 06/07/24     |
| L2432050-14        | CO57-PZP002 | WATER  | SPARROW POINT      | 06/07/24 14:40          | 06/07/24     |

**Project Name:** COAGW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432050  
**Report Date:** 06/14/24

### 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:** COAGW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432050  
**Report Date:** 06/14/24

**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: 06/14/24

# ORGANICS



# VOLATILES

**Project Name:** COAGW Q3 2024**Lab Number:** L2432050**Project Number:** 21010210**Report Date:** 06/14/24**SAMPLE RESULTS**

Lab ID: L2432050-01 D

Date Collected: 06/07/24 10:15

Client ID: CO56-PZP001

Date Received: 06/07/24

Sample Location: SPARROW POINT

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 06/13/24 00:28

Analyst: MKS

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 94     |           | ug/l  | 5.0 | 1.6 | 10              |
| Toluene                                      | 9.2    |           | ug/l  | 7.5 | 2.0 | 10              |
| Ethylbenzene                                 | 5.4    |           | ug/l  | 5.0 | 1.7 | 10              |
| p/m-Xylene                                   | 81     |           | ug/l  | 10  | 3.3 | 10              |
| o-Xylene                                     | 30     |           | ug/l  | 10  | 3.9 | 10              |
| Xylenes, Total                               | 110    |           | ug/l  | 10  | 3.3 | 10              |
| Naphthalene                                  | 1200   |           | ug/l  | 10  | 2.2 | 10              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 110        |           | 70-130              |
| Toluene-d8            | 102        |           | 70-130              |
| 4-Bromofluorobenzene  | 97         |           | 70-130              |
| Dibromofluoromethane  | 102        |           | 70-130              |

**Project Name:** COAGW Q3 2024**Lab Number:** L2432050**Project Number:** 21010210**Report Date:** 06/14/24**SAMPLE RESULTS**

Lab ID: L2432050-02 D

Date Collected: 06/07/24 11:52

Client ID: CO58-PZM001

Date Received: 06/07/24

Sample Location: SPARROW POINT

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 06/13/24 00:53

Analyst: MKS

| Parameter                                    | Result | Qualifier | Units | RL  | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |      |                 |
| Benzene                                      | 33     |           | ug/l  | 1.2 | 0.40 | 2.5             |
| Toluene                                      | 2.6    |           | ug/l  | 1.9 | 0.51 | 2.5             |
| Ethylbenzene                                 | 1.5    |           | ug/l  | 1.2 | 0.42 | 2.5             |
| p/m-Xylene                                   | 14     |           | ug/l  | 2.5 | 0.83 | 2.5             |
| o-Xylene                                     | 6.9    |           | ug/l  | 2.5 | 0.98 | 2.5             |
| Xylenes, Total                               | 21     |           | ug/l  | 2.5 | 0.83 | 2.5             |
| Naphthalene                                  | 230    |           | ug/l  | 2.5 | 0.54 | 2.5             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 111        |           | 70-130              |
| Toluene-d8            | 99         |           | 70-130              |
| 4-Bromofluorobenzene  | 100        |           | 70-130              |
| Dibromofluoromethane  | 100        |           | 70-130              |

**Project Name:** COAGW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432050  
**Report Date:** 06/14/24

**SAMPLE RESULTS**

**Lab ID:** L2432050-03      D  
**Client ID:** CO206R-MWS  
**Sample Location:** SPARROW POINT

**Date Collected:** 06/07/24 13:10  
**Date Received:** 06/07/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 06/13/24 01:18  
**Analyst:** MKS

| Parameter                                    | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |    |     |                 |
| Benzene                                      | 230    |           | ug/l  | 10 | 3.2 | 20              |
| Toluene                                      | 87     |           | 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                                     | 52     |           | ug/l  | 20 | 7.8 | 20              |
| Xylenes, Total                               | 190    |           | ug/l  | 20 | 6.6 | 20              |
| Naphthalene                                  | 2300   |           | ug/l  | 20 | 4.3 | 20              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 109        |           | 70-130              |
| Toluene-d8            | 99         |           | 70-130              |
| 4-Bromofluorobenzene  | 99         |           | 70-130              |
| Dibromofluoromethane  | 100        |           | 70-130              |

**Project Name:** COAGW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432050  
**Report Date:** 06/14/24

**SAMPLE RESULTS**

**Lab ID:** L2432050-04  
**Client ID:** CO55-PZM000  
**Sample Location:** SPARROW POINT

**Date Collected:** 06/07/24 13:15  
**Date Received:** 06/07/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 06/14/24 01:43  
**Analyst:** MKS

| Parameter                                    | Result | Qualifier | Units | RL   | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |      |                 |
| Benzene                                      | 6.6    |           | ug/l  | 0.50 | 0.16 | 1               |
| Toluene                                      | 2.0    |           | ug/l  | 0.75 | 0.20 | 1               |
| Ethylbenzene                                 | 0.30   | J         | ug/l  | 0.50 | 0.17 | 1               |
| p/m-Xylene                                   | 2.0    |           | ug/l  | 1.0  | 0.33 | 1               |
| o-Xylene                                     | 0.92   | J         | ug/l  | 1.0  | 0.39 | 1               |
| Xylenes, Total                               | 2.9    | J         | ug/l  | 1.0  | 0.33 | 1               |
| Naphthalene                                  | 24     |           | ug/l  | 1.0  | 0.22 | 1               |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 109        |           | 70-130              |
| Toluene-d8            | 108        |           | 70-130              |
| 4-Bromofluorobenzene  | 97         |           | 70-130              |
| Dibromofluoromethane  | 109        |           | 70-130              |

**Project Name:** COAGW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432050  
**Report Date:** 06/14/24

**SAMPLE RESULTS**

**Lab ID:** L2432050-05      D  
**Client ID:** CO26-PZM007  
**Sample Location:** SPARROW POINT

**Date Collected:** 06/07/24 13:25  
**Date Received:** 06/07/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 06/13/24 01:44  
**Analyst:** MKS

| Parameter                                    | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |    |     |                 |
| Benzene                                      | 210    |           | ug/l  | 10 | 3.2 | 20              |
| Toluene                                      | 130    |           | ug/l  | 15 | 4.1 | 20              |
| Ethylbenzene                                 | 7.9    | J         | ug/l  | 10 | 3.3 | 20              |
| p/m-Xylene                                   | 140    |           | ug/l  | 20 | 6.6 | 20              |
| o-Xylene                                     | 54     |           | ug/l  | 20 | 7.8 | 20              |
| Xylenes, Total                               | 190    |           | ug/l  | 20 | 6.6 | 20              |
| Naphthalene                                  | 2600   |           | ug/l  | 20 | 4.3 | 20              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 107        |           | 70-130              |
| Toluene-d8            | 101        |           | 70-130              |
| 4-Bromofluorobenzene  | 99         |           | 70-130              |
| Dibromofluoromethane  | 100        |           | 70-130              |



**Project Name:** COAGW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432050  
**Report Date:** 06/14/24

**SAMPLE RESULTS**

**Lab ID:** L2432050-06 D  
**Client ID:** CO25-PZM008  
**Sample Location:** SPARROW POINT

**Date Collected:** 06/07/24 14:20  
**Date Received:** 06/07/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 06/13/24 02:09  
**Analyst:** MKS

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 830    |           | ug/l  | 50  | 16. | 100             |
| Toluene                                      | 730    |           | ug/l  | 75  | 20. | 100             |
| Ethylbenzene                                 | 24     | J         | ug/l  | 50  | 17. | 100             |
| p/m-Xylene                                   | 470    |           | ug/l  | 100 | 33. | 100             |
| o-Xylene                                     | 170    |           | ug/l  | 100 | 39. | 100             |
| Xylenes, Total                               | 640    |           | ug/l  | 100 | 33. | 100             |
| Naphthalene                                  | 14000  |           | ug/l  | 100 | 22. | 100             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 107        |           | 70-130              |
| Toluene-d8            | 100        |           | 70-130              |
| 4-Bromofluorobenzene  | 99         |           | 70-130              |
| Dibromofluoromethane  | 100        |           | 70-130              |

**Project Name:** COAGW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432050  
**Report Date:** 06/14/24

**SAMPLE RESULTS**

**Lab ID:** L2432050-07      D  
**Client ID:** CO41-PZM001  
**Sample Location:** SPARROW POINT

**Date Collected:** 06/07/24 10:25  
**Date Received:** 06/07/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 06/14/24 02:07  
**Analyst:** MKS

| Parameter                                    | Result | Qualifier | Units | RL  | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |      |                 |
| Benzene                                      | 550    |           | ug/l  | 2.5 | 0.80 | 5               |
| Toluene                                      | 29     |           | ug/l  | 3.8 | 1.0  | 5               |
| Ethylbenzene                                 | 3.0    |           | ug/l  | 2.5 | 0.84 | 5               |
| p/m-Xylene                                   | 9.4    |           | ug/l  | 5.0 | 1.7  | 5               |
| o-Xylene                                     | 3.2    | J         | ug/l  | 5.0 | 2.0  | 5               |
| Xylenes, Total                               | 13     | J         | ug/l  | 5.0 | 1.7  | 5               |
| Naphthalene                                  | 3.1    | J         | ug/l  | 5.0 | 1.1  | 5               |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 111        |           | 70-130              |
| Toluene-d8            | 108        |           | 70-130              |
| 4-Bromofluorobenzene  | 99         |           | 70-130              |
| Dibromofluoromethane  | 103        |           | 70-130              |

Project Name: COAGW Q3 2024

Project Number: 21010210

Lab Number: L2432050

Report Date: 06/14/24

## SAMPLE RESULTS

Lab ID: L2432050-08 D

Client ID: CO41-PZM036

Sample Location: SPARROW POINT

Date Collected: 06/07/24 11:00

Date Received: 06/07/24

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 06/13/24 03:00

Analyst: MKS

| Parameter                                    | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |     |                 |
| Benzene                                      | 290000 |           | ug/l  | 1000 | 320 | 2000            |
| Toluene                                      | 84000  |           | ug/l  | 1500 | 410 | 2000            |
| Ethylbenzene                                 | 740    | J         | ug/l  | 1000 | 330 | 2000            |
| p/m-Xylene                                   | 10000  |           | ug/l  | 2000 | 660 | 2000            |
| o-Xylene                                     | 3100   |           | ug/l  | 2000 | 780 | 2000            |
| Xylenes, Total                               | 13000  |           | ug/l  | 2000 | 660 | 2000            |
| Naphthalene                                  | 580    | J         | ug/l  | 2000 | 430 | 2000            |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 106        |           | 70-130              |
| Toluene-d8            | 101        |           | 70-130              |
| 4-Bromofluorobenzene  | 101        |           | 70-130              |
| Dibromofluoromethane  | 96         |           | 70-130              |

**Project Name:** COAGW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432050  
**Report Date:** 06/14/24

**SAMPLE RESULTS**

**Lab ID:** L2432050-09      D  
**Client ID:** CO59-PZP002  
**Sample Location:** SPARROW POINT

**Date Collected:** 06/07/24 13:45  
**Date Received:** 06/07/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 06/13/24 03:26  
**Analyst:** MKS

| Parameter                                    | Result | Qualifier | Units | RL  | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |      |                 |
| Benzene                                      | 300    |           | ug/l  | 1.2 | 0.40 | 2.5             |
| Toluene                                      | 280    |           | ug/l  | 1.9 | 0.51 | 2.5             |
| Ethylbenzene                                 | 5.1    |           | ug/l  | 1.2 | 0.42 | 2.5             |
| p/m-Xylene                                   | 84     |           | ug/l  | 2.5 | 0.83 | 2.5             |
| o-Xylene                                     | 24     |           | ug/l  | 2.5 | 0.98 | 2.5             |
| Xylenes, Total                               | 110    |           | ug/l  | 2.5 | 0.83 | 2.5             |
| Naphthalene                                  | 130    |           | ug/l  | 2.5 | 0.54 | 2.5             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 105        |           | 70-130              |
| Toluene-d8            | 102        |           | 70-130              |
| 4-Bromofluorobenzene  | 101        |           | 70-130              |
| Dibromofluoromethane  | 95         |           | 70-130              |

**Project Name:** COAGW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432050  
**Report Date:** 06/14/24

**SAMPLE RESULTS**

**Lab ID:** L2432050-10      D  
**Client ID:** CO23-PZM008  
**Sample Location:** SPARROW POINT

**Date Collected:** 06/07/24 13:00  
**Date Received:** 06/07/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 06/13/24 03:51  
**Analyst:** MKS

| Parameter                                    | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |    |     |                 |
| Benzene                                      | 840    |           | ug/l  | 12 | 4.0 | 25              |
| Toluene                                      | 540    |           | ug/l  | 19 | 5.1 | 25              |
| Ethylbenzene                                 | 24     |           | ug/l  | 12 | 4.2 | 25              |
| p/m-Xylene                                   | 310    |           | ug/l  | 25 | 8.3 | 25              |
| o-Xylene                                     | 110    |           | ug/l  | 25 | 9.8 | 25              |
| Xylenes, Total                               | 420    |           | ug/l  | 25 | 8.3 | 25              |
| Naphthalene                                  | 3800   |           | ug/l  | 25 | 5.4 | 25              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 107        |           | 70-130              |
| Toluene-d8            | 101        |           | 70-130              |
| 4-Bromofluorobenzene  | 99         |           | 70-130              |
| Dibromofluoromethane  | 100        |           | 70-130              |

**Project Name:** COAGW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432050  
**Report Date:** 06/14/24

**SAMPLE RESULTS**

**Lab ID:** L2432050-11      D  
**Client ID:** CO191-MWS  
**Sample Location:** SPARROW POINT

**Date Collected:** 06/07/24 09:40  
**Date Received:** 06/07/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 06/14/24 02:32  
**Analyst:** MKS

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 34000  |           | ug/l  | 100 | 32. | 200             |
| Toluene                                      | 2700   |           | ug/l  | 150 | 41. | 200             |
| Ethylbenzene                                 | 110    |           | ug/l  | 100 | 33. | 200             |
| p/m-Xylene                                   | 640    |           | ug/l  | 200 | 66. | 200             |
| o-Xylene                                     | 260    |           | ug/l  | 200 | 78. | 200             |
| Xylenes, Total                               | 900    |           | ug/l  | 200 | 66. | 200             |
| Naphthalene                                  | 190    | J         | ug/l  | 200 | 43. | 200             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 109        |           | 70-130              |
| Toluene-d8            | 106        |           | 70-130              |
| 4-Bromofluorobenzene  | 100        |           | 70-130              |
| Dibromofluoromethane  | 99         |           | 70-130              |



**Project Name:** COAGW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432050  
**Report Date:** 06/14/24

**SAMPLE RESULTS**

**Lab ID:** L2432050-12      D  
**Client ID:** CO24-PZM007  
**Sample Location:** SPARROW POINT

**Date Collected:** 06/07/24 12:00  
**Date Received:** 06/07/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 06/13/24 04:42  
**Analyst:** MKS

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 1700   |           | ug/l  | 5.0 | 1.6 | 10              |
| Toluene                                      | 940    |           | ug/l  | 7.5 | 2.0 | 10              |
| Ethylbenzene                                 | 14     |           | ug/l  | 5.0 | 1.7 | 10              |
| p/m-Xylene                                   | 200    |           | ug/l  | 10  | 3.3 | 10              |
| o-Xylene                                     | 54     |           | ug/l  | 10  | 3.9 | 10              |
| Xylenes, Total                               | 250    |           | ug/l  | 10  | 3.3 | 10              |
| Naphthalene                                  | 1200   |           | ug/l  | 10  | 2.2 | 10              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 105        |           | 70-130              |
| Toluene-d8            | 101        |           | 70-130              |
| 4-Bromofluorobenzene  | 98         |           | 70-130              |
| Dibromofluoromethane  | 97         |           | 70-130              |

**Project Name:** COAGW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432050  
**Report Date:** 06/14/24

**SAMPLE RESULTS**

**Lab ID:** L2432050-13  
**Client ID:** TB-WT-01  
**Sample Location:** SPARROW POINT

**Date Collected:** 06/07/24 00:00  
**Date Received:** 06/07/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 06/13/24 00:02  
**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 | 113        |           | 70-130              |
| Toluene-d8            | 98         |           | 70-130              |
| 4-Bromofluorobenzene  | 102        |           | 70-130              |
| Dibromofluoromethane  | 104        |           | 70-130              |

**Project Name:** COAGW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432050  
**Report Date:** 06/14/24

**SAMPLE RESULTS**

**Lab ID:** L2432050-14      D  
**Client ID:** CO57-PZP002  
**Sample Location:** SPARROW POINT

**Date Collected:** 06/07/24 14:40  
**Date Received:** 06/07/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 06/13/24 05:07  
**Analyst:** MKS

| Parameter                                    | Result | Qualifier | Units | RL  | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |      |                 |
| Benzene                                      | 270    |           | ug/l  | 1.2 | 0.40 | 2.5             |
| Toluene                                      | 310    |           | ug/l  | 1.9 | 0.51 | 2.5             |
| Ethylbenzene                                 | 6.3    |           | ug/l  | 1.2 | 0.42 | 2.5             |
| p/m-Xylene                                   | 100    |           | ug/l  | 2.5 | 0.83 | 2.5             |
| o-Xylene                                     | 33     |           | ug/l  | 2.5 | 0.98 | 2.5             |
| Xylenes, Total                               | 130    |           | ug/l  | 2.5 | 0.83 | 2.5             |
| Naphthalene                                  | 220    |           | ug/l  | 2.5 | 0.54 | 2.5             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 107        |           | 70-130              |
| Toluene-d8            | 102        |           | 70-130              |
| 4-Bromofluorobenzene  | 98         |           | 70-130              |
| Dibromofluoromethane  | 97         |           | 70-130              |

**Project Name:** COAGW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432050  
**Report Date:** 06/14/24

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260D  
 Analytical Date: 06/12/24 21:05  
 Analyst: LAC

| Parameter                                                                                              | Result | Qualifier | Units | RL   | MDL  |
|--------------------------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,05-06,08-10,12-14 Batch: WG1933930-5 |        |           |       |      |      |
| 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 | 107       |           | 70-130              |
| Toluene-d8            | 99        |           | 70-130              |
| 4-Bromofluorobenzene  | 101       |           | 70-130              |
| Dibromofluoromethane  | 103       |           | 70-130              |

**Project Name:** COAGW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432050  
**Report Date:** 06/14/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 06/13/24 21:41  
**Analyst:** LAC

| Parameter                                                                               | Result | Qualifier | Units | RL   | MDL  |
|-----------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 04,07,11 Batch: WG1934320-5 |        |           |       |      |      |
| 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 | 117       |           | 70-130              |
| Toluene-d8            | 101       |           | 70-130              |
| 4-Bromofluorobenzene  | 91        |           | 70-130              |
| Dibromofluoromethane  | 108       |           | 70-130              |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: COAGW Q3 2024

Project Number: 21010210

Lab Number: L2432050

Report Date: 06/14/24

| Parameter                                                                                                                 | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---------------------------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,05-06,08-10,12-14 Batch: WG1933930-3 WG1933930-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                                   | 100              |      | 99                |      | 70-130              | 1   |      | 20            |
| Toluene                                                                                                                   | 95               |      | 94                |      | 70-130              | 1   |      | 20            |
| Ethylbenzene                                                                                                              | 94               |      | 92                |      | 70-130              | 2   |      | 20            |
| p/m-Xylene                                                                                                                | 95               |      | 90                |      | 70-130              | 5   |      | 20            |
| o-Xylene                                                                                                                  | 95               |      | 90                |      | 70-130              | 5   |      | 20            |
| Naphthalene                                                                                                               | 81               |      | 79                |      | 70-130              | 3   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 107              |      | 107               |      | 70-130                 |
| Toluene-d8            | 101              |      | 101               |      | 70-130                 |
| 4-Bromofluorobenzene  | 100              |      | 101               |      | 70-130                 |
| Dibromofluoromethane  | 97               |      | 97                |      | 70-130                 |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: COAGW Q3 2024

Project Number: 21010210

Lab Number: L2432050

Report Date: 06/14/24

| Parameter                                                                                                  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|------------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04,07,11 Batch: WG1934320-3 WG1934320-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                    | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| Toluene                                                                                                    | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| Ethylbenzene                                                                                               | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| p/m-Xylene                                                                                                 | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| o-Xylene                                                                                                   | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| Naphthalene                                                                                                | 94               |      | 96                |      | 70-130              | 2   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 121              |      | 117               |      | 70-130                 |
| Toluene-d8            | 104              |      | 106               |      | 70-130                 |
| 4-Bromofluorobenzene  | 91               |      | 90                |      | 70-130                 |
| Dibromofluoromethane  | 109              |      | 105               |      | 70-130                 |



**Project Name:** COAGW Q3 2024  
**Project Number:** 21010210

Serial\_No:06142414:18  
**Lab Number:** L2432050  
**Report Date:** 06/14/24

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

**Cooler**                      **Custody Seal**  
A                                  Absent

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|--------------------|
| L2432050-01A        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2432050-01B        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2432050-01C        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2432050-02A        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2432050-02B        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2432050-02C        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2432050-03A        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2432050-03B        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2432050-03C        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2432050-04A        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2432050-04B        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | ARCHIVE()          |
| L2432050-04C        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2432050-05A        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2432050-05B        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2432050-05C        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2432050-06A        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2432050-06B        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2432050-06C        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2432050-07A        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2432050-07B        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2432050-07C        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2432050-08A        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |
| L2432050-08B        | Vial HCl preserved    | A             | NA                    |                     | 4.1                   | Y           | Absent      |                             | PA-8260(14)        |

**Project Name:** COAGW Q3 2024  
**Project Number:** 21010210

Serial\_No:06142414:18  
**Lab Number:** L2432050  
**Report Date:** 06/14/24

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial pH</b> | <b>Final pH</b> | <b>Temp deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-------------------|-----------------|-------------------|-------------|-------------|-------------------------|--------------------|
| L2432050-08C        | Vial HCl preserved    | A             | NA                |                 | 4.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2432050-09A        | Vial HCl preserved    | A             | NA                |                 | 4.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2432050-09B        | Vial HCl preserved    | A             | NA                |                 | 4.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2432050-09C        | Vial HCl preserved    | A             | NA                |                 | 4.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2432050-10A        | Vial HCl preserved    | A             | NA                |                 | 4.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2432050-10B        | Vial HCl preserved    | A             | NA                |                 | 4.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2432050-10C        | Vial HCl preserved    | A             | NA                |                 | 4.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2432050-11A        | Vial HCl preserved    | A             | NA                |                 | 4.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2432050-11B        | Vial HCl preserved    | A             | NA                |                 | 4.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2432050-11C        | Vial HCl preserved    | A             | NA                |                 | 4.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2432050-12A        | Vial HCl preserved    | A             | NA                |                 | 4.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2432050-12B        | Vial HCl preserved    | A             | NA                |                 | 4.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2432050-12C        | Vial HCl preserved    | A             | NA                |                 | 4.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2432050-13A        | Vial HCl preserved    | A             | NA                |                 | 4.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2432050-13B        | Vial HCl preserved    | A             | NA                |                 | 4.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2432050-13C        | Vial HCl preserved    | A             | NA                |                 | 4.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2432050-13D        | Vial HCl preserved    | A             | NA                |                 | 4.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2432050-14A        | Vial HCl preserved    | A             | NA                |                 | 4.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2432050-14B        | Vial HCl preserved    | A             | NA                |                 | 4.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2432050-14C        | Vial HCl preserved    | A             | NA                |                 | 4.1               | Y           | Absent      |                         | PA-8260(14)        |

**Project Name:** COAGW Q3 2024**Lab Number:** L2432050**Project Number:** 21010210**Report Date:** 06/14/24

## GLOSSARY

### Acronyms

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DL       | - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                |
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                                                                                         |
| EMPC     | - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.                                                                                                                                                                                                                               |
| EPA      | - Environmental Protection Agency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                          |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                         |
| LOD      | - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                                                               |
| LOQ      | - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)<br><br>Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                          |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.                                                                                                                                                                                                    |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NA       | - Not Applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.                                                                                                                                                                                                                                                                                                                                                                           |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NI       | - Not Ignitable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NR       | - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.                                                                                                                                                                                                                                                                                                                                                                    |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                                                                                                                                   |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.                                                                  |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.                                                                                                                                                                                                                                                                                                                                                                     |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TEF      | - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.                                                                                                                                                                                                                                                                                                                                                                                             |
| TEQ      | - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.                                                                                                                                                                                                                                                                                                                                                        |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.                                                                                                                                                                                                                                                                      |

*Report Format: DU Report with 'J' Qualifiers*

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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:** COAGW Q3 2024**Lab Number:** L2432050**Project Number:** 21010210**Report Date:** 06/14/24**Data Qualifiers**

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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:** COAGW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2432050  
**Report Date:** 06/14/24

## 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.



**Alpha Analytical, Inc.**Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 21

Published Date: 04/17/2024

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**Certification Information**

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

**Westborough Facility****EPA 624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625.1:** alpha-Terpineol**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility****SM 2540D:** TSS.**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.

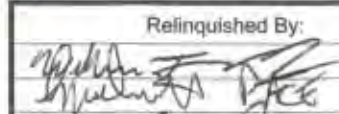
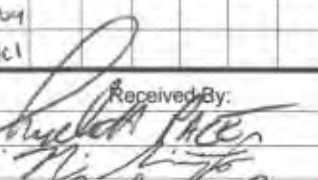
**Nonpotable Water:** **EPA RSK-175 Dissolved Gases****Biological Tissue Matrix:** EPA 3050B

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

**Westborough Facility:****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, 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.



|  <b>CHAIN OF CUSTODY</b>                                                                                                   |             |                                                                                                                                                                          |       |                                                                                                                                                                                                                                              |                       | PAGE <u>1</u> OF <u>2</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>WESTBORO, MA</b><br>TEL: 508-898-9220<br>FAX: 508-896-9193                                                                                                                                             |             | <b>MANSFIELD, MA</b><br>TEL: 508-822-9300<br>FAX: 508-822-3288                                                                                                           |       | <b>Project Information</b><br>Project Name: <u>COAGW 03 2024</u><br>Project Location: <u>Sparrow Point</u><br>Project # <u>21010210</u><br>Project Manager: <u>Bob Tworowski</u><br>ALPHA Quote #:                                           |                       | Date Rec'd In Lab: <u>6/18/24</u><br><b>Report Information - Data Deliverables</b><br><input type="checkbox"/> FAX <input type="checkbox"/> EMAIL<br><input type="checkbox"/> ADEx <input type="checkbox"/> Add'l Deliverables                                                                                                                                                                                                                                                                                                                                                                       |  |
| <b>Client Information</b><br>Client: <u>TPA</u><br>Address:<br>Phone:<br>Fax:<br>Email: <u>Btworowski JBerna KGuille</u><br><input type="checkbox"/> These samples have been previously analyzed by Alpha |             | <b>Turn-Around Time</b><br><input checked="" type="checkbox"/> Standard <input type="checkbox"/> RUSH (only confirmed if pre-approved)<br>Date Due: <u>10-July</u> Time: |       | <b>Billing Information</b><br><input type="checkbox"/> Same as Client info      PO #:                                                                                                                                                        |                       | <b>Regulatory Requirements/Report Limits</b><br>State /Fed Program      Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| Other Project Specific Requirements/Comments/Detection Limits:<br><u>All samples pH above 10</u>                                                                                                          |             |                                                                                                                                                                          |       |                                                                                                                                                                                                                                              |                       | <div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">ANALYSIS</div> <div style="border: 1px solid black; padding: 5px;"> <b>SAMPLE HANDLING</b><br/>           Filtration _____<br/> <input type="checkbox"/> Done<br/> <input type="checkbox"/> Not needed<br/> <input type="checkbox"/> Lab to do<br/>           Preservation<br/> <input type="checkbox"/> Lab to do<br/> <small>(Please specify below)</small> </div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TOTAL # BOTTLES</div> </div> |  |
| ALPHA Lab ID<br>(Lab Use Only)                                                                                                                                                                            | Sample ID   | Collection<br>Date                                                                                                                                                       | Time  | Sample<br>Matrix                                                                                                                                                                                                                             | Sampler's<br>Initials | Sample Specific Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
| 32050-01                                                                                                                                                                                                  | C056-PZP001 | 6/7/24                                                                                                                                                                   | 10:15 | GW                                                                                                                                                                                                                                           | WLF                   | X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 02                                                                                                                                                                                                        | C058-PZM001 | 6/7/24                                                                                                                                                                   | 11:52 | GW                                                                                                                                                                                                                                           | WLF                   | X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 03                                                                                                                                                                                                        | C02002-MWS  | 6/7/24                                                                                                                                                                   | 13:10 | GW                                                                                                                                                                                                                                           | WLF                   | X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 04                                                                                                                                                                                                        | C055-PZM000 | 6/7/24                                                                                                                                                                   | 13:15 | GW                                                                                                                                                                                                                                           | WLF                   | X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 05                                                                                                                                                                                                        | C026-PZM007 | 6/7/24                                                                                                                                                                   | 13:25 | GW                                                                                                                                                                                                                                           | WLF                   | X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 06                                                                                                                                                                                                        | C025-PZM008 | 6/7/24                                                                                                                                                                   | 14:20 | GW                                                                                                                                                                                                                                           | WLF                   | X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 07                                                                                                                                                                                                        | C041-PZM001 | 6/7/24                                                                                                                                                                   | 10:25 | GW                                                                                                                                                                                                                                           | WLF                   | X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 08                                                                                                                                                                                                        | C041-PZM036 | 6/7/24                                                                                                                                                                   | 11:00 | GW                                                                                                                                                                                                                                           | DK                    | X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 09                                                                                                                                                                                                        | C059-PZP002 | 6/7/24                                                                                                                                                                   | 13:45 | GW                                                                                                                                                                                                                                           | DK                    | X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 10                                                                                                                                                                                                        | C023-PZM008 | 6/7/24                                                                                                                                                                   | 13:00 | GW                                                                                                                                                                                                                                           | DK                    | X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| Rel: <u>6/18/24 0424</u><br><u>6/18/24 0424</u>                                                                                                                                                           |             | Container Type <u>V44</u><br>Preservative <u>HCl</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:<br><br><u>Anthony Green</u>                                                                           |             | Date/Time<br><u>6/7/24 14:50</u><br><u>6/7/24 1500</u><br><u>6/7/24 2100</u><br><u>6/18/24 0224</u>                                                                      |       | Received By:<br><br><u>Anthony Green</u>                                                                                                                |                       | Date/Time<br><u>6/7/24 1510</u><br><u>6/7/24 1500</u><br><u>6/18/24 0224</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |





## ANALYTICAL REPORT

|                 |                                                                             |
|-----------------|-----------------------------------------------------------------------------|
| Lab Number:     | L2434974                                                                    |
| Client:         | Tradepoint Atlantic<br>1600 Sparrows Point Boulevard<br>Baltimore, MD 21219 |
| ATTN:           | Robert Tworkowski                                                           |
| Phone:          | (443) 649-5073                                                              |
| Project Name:   | COA GW Q2                                                                   |
| Project Number: | 21010210                                                                    |
| Report Date:    | 06/27/24                                                                    |

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

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





**Project Name:** COA GW Q2  
**Project Number:** 21010210

**Lab Number:** L2434974  
**Report Date:** 06/27/24

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L2434974-01                | CO190-MWS        | WATER         | Not Specified              | 06/20/24 12:25                  | 06/20/24            |
| L2434974-02                | TB-WT-01         | WATER         | Not Specified              | 06/20/24 00:00                  | 06/20/24            |

**Project Name:** COA GW Q2  
**Project Number:** 21010210

**Lab Number:** L2434974  
**Report Date:** 06/27/24

### 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 Q2  
**Project Number:** 21010210

**Lab Number:** L2434974  
**Report Date:** 06/27/24

**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: 06/27/24

# ORGANICS



# **VOLATILES**

**Project Name:** COA GW Q2**Lab Number:** L2434974**Project Number:** 21010210**Report Date:** 06/27/24**SAMPLE RESULTS**

Lab ID: L2434974-01 D

Date Collected: 06/20/24 12:25

Client ID: CO190-MWS

Date Received: 06/20/24

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 06/26/24 13:18

Analyst: PID

| Parameter                                    | Result | Qualifier | Units | RL   | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |      |                 |
| Benzene                                      | 550000 |           | ug/l  | 2000 | 640  | 4000            |
| Toluene                                      | 35000  |           | ug/l  | 3000 | 810  | 4000            |
| Ethylbenzene                                 | ND     |           | ug/l  | 2000 | 670  | 4000            |
| p/m-Xylene                                   | ND     |           | ug/l  | 4000 | 1300 | 4000            |
| o-Xylene                                     | ND     |           | ug/l  | 4000 | 1600 | 4000            |
| Xylenes, Total                               | ND     |           | ug/l  | 4000 | 1300 | 4000            |
| Naphthalene                                  | ND     |           | ug/l  | 4000 | 860  | 4000            |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 111        |           | 70-130              |
| Toluene-d8            | 100        |           | 70-130              |
| 4-Bromofluorobenzene  | 94         |           | 70-130              |
| Dibromofluoromethane  | 100        |           | 70-130              |

**Project Name:** COA GW Q2  
**Project Number:** 21010210

**Lab Number:** L2434974  
**Report Date:** 06/27/24

**SAMPLE RESULTS**

**Lab ID:** L2434974-02  
**Client ID:** TB-WT-01  
**Sample Location:** Not Specified

**Date Collected:** 06/20/24 00:00  
**Date Received:** 06/20/24  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 06/26/24 12:53  
**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 | 116        |           | 70-130              |
| Toluene-d8            | 100        |           | 70-130              |
| 4-Bromofluorobenzene  | 94         |           | 70-130              |
| Dibromofluoromethane  | 105        |           | 70-130              |

**Project Name:** COA GW Q2  
**Project Number:** 21010210

**Lab Number:** L2434974  
**Report Date:** 06/27/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 06/26/24 10:24  
**Analyst:** PID

| Parameter                                                                            | Result | Qualifier | Units | RL   | MDL  |
|--------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1940118-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 115       |           | 70-130                 |
| Toluene-d8            | 101       |           | 70-130                 |
| 4-Bromofluorobenzene  | 94        |           | 70-130                 |
| Dibromofluoromethane  | 107       |           | 70-130                 |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: COA GW Q2

Project Number: 21010210

Lab Number: L2434974

Report Date: 06/27/24

| Parameter                                                                                               | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1940118-3 WG1940118-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                 | 110              |      | 100               |      | 70-130              | 10  |      | 20            |
| Toluene                                                                                                 | 100              |      | 100               |      | 70-130              | 0   |      | 20            |
| Ethylbenzene                                                                                            | 110              |      | 100               |      | 70-130              | 10  |      | 20            |
| p/m-Xylene                                                                                              | 110              |      | 105               |      | 70-130              | 5   |      | 20            |
| o-Xylene                                                                                                | 110              |      | 105               |      | 70-130              | 5   |      | 20            |
| Naphthalene                                                                                             | 78               |      | 84                |      | 70-130              | 7   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 108              |      | 109               |      | 70-130                 |
| Toluene-d8            | 102              |      | 100               |      | 70-130                 |
| 4-Bromofluorobenzene  | 92               |      | 92                |      | 70-130                 |
| Dibromofluoromethane  | 105              |      | 103               |      | 70-130                 |

**Project Name:** COA GW Q2**Lab Number:** L2434974**Project Number:** 21010210**Report Date:** 06/27/24**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

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

A                                  Absent

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|--------------------|
| L2434974-01A        | Vial HCl preserved    | A             | NA                    |                     | 4.8                   | Y           | Absent      |                             | PA-8260(14)        |
| L2434974-01B        | Vial HCl preserved    | A             | NA                    |                     | 4.8                   | Y           | Absent      |                             | PA-8260(14)        |
| L2434974-01C        | Vial HCl preserved    | A             | NA                    |                     | 4.8                   | Y           | Absent      |                             | PA-8260(14)        |
| L2434974-02A        | Vial HCl preserved    | A             | NA                    |                     | 4.8                   | Y           | Absent      |                             | PA-8260(14)        |
| L2434974-02B        | Vial HCl preserved    | A             | NA                    |                     | 4.8                   | Y           | Absent      |                             | PA-8260(14)        |
| L2434974-02C        | Vial HCl preserved    | A             | NA                    |                     | 4.8                   | Y           | Absent      |                             | PA-8260(14)        |
| L2434974-02D        | Vial HCl preserved    | A             | NA                    |                     | 4.8                   | Y           | Absent      |                             | PA-8260(14)        |

**Project Name:** COA GW Q2  
**Project Number:** 21010210

**Lab Number:** L2434974  
**Report Date:** 06/27/24

## GLOSSARY

### Acronyms

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DL       | - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                |
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                                                                                         |
| EMPC     | - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.                                                                                                                                                                                                                               |
| EPA      | - Environmental Protection Agency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                          |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                         |
| LOD      | - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                                                               |
| LOQ      | - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)<br><br>Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                          |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.                                                                                                                                                                                                    |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NA       | - Not Applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.                                                                                                                                                                                                                                                                                                                                                                           |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NI       | - Not Ignitable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NR       | - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.                                                                                                                                                                                                                                                                                                                                                                    |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                                                                                                                                   |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.                                                                  |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.                                                                                                                                                                                                                                                                                                                                                                     |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TEF      | - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.                                                                                                                                                                                                                                                                                                                                                                                             |
| TEQ      | - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.                                                                                                                                                                                                                                                                                                                                                        |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.                                                                                                                                                                                                                                                                      |

Report Format: DU Report with 'J' Qualifiers





**Project Name:** COA GW Q2  
**Project Number:** 21010210

**Lab Number:** L2434974  
**Report Date:** 06/27/24

## 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 Q2  
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**Lab Number:** L2434974  
**Report Date:** 06/27/24

#### Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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 Q2  
**Project Number:** 21010210

**Lab Number:** L2434974  
**Report Date:** 06/27/24

## 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.



**Alpha Analytical, Inc.**Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 21

Published Date: 04/17/2024

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**Certification Information**

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

**Westborough Facility****EPA 624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625.1:** alpha-Terpineol**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility****SM 2540D:** TSS.**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.

**Nonpotable Water:** **EPA RSK-175 Dissolved Gases****Biological Tissue Matrix:** EPA 3050B

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

**Westborough Facility:****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, 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.

|                                                                                                                                                                                                                                                 |  |                                                                                                                                                                                                                          |  |                                                                                       |  |                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NEW JERSEY CHAIN OF CUSTODY</b><br>Westborough, MA 01581<br>8 Walkup Dr.<br>TEL: 508-898-9220<br>FAX: 508-898-9193                                                                                                                           |  | <b>Service Centers</b><br>Mahwah, NJ 07430: 35 Whitney Rd, Suite 5<br>Albany, NY 12205: 14 Walker Way<br>Tonawanda, NY 14150: 275 Cooper Ave, Suite 105                                                                  |  | Page <u>1</u> of <u>1</u>                                                             |  | Date Rec'd In Lab <u>6/21/24</u>                                                                                                                                                                                                                                                                          |  | ALPHA Job # <u>L2434974</u>                                                                                                                                                     |  |                                                                                                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                 |  |                                                                                                                                                                                                                          |  |                                                                                       |  |                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                             |
| Mansfield, MA 02048<br>320 Forbes Blvd<br>TEL: 508-822-9300<br>FAX: 508-822-3288                                                                                                                                                                |  | <b>Project Information</b><br>Project Name: <u>COA GW Q2</u><br>Project Location: _____<br>Project # <u>21010210</u><br>(Use Project name as Project #) <input type="checkbox"/>                                         |  |                                                                                       |  | <b>Deliverables</b><br><input type="checkbox"/> NJ Full / Reduced<br><input type="checkbox"/> EQuIS (1 File) <input type="checkbox"/> EQuIS (4 File)<br><input type="checkbox"/> Other                                                                                                                    |  | <b>Billing Information</b><br><input type="checkbox"/> Same as Client Info<br>PO # _____                                                                                        |  |                                                                                                                                                                                                                                                                             |
| <b>Client Information</b><br>Client: <u>TPA</u><br>Address: _____<br>Phone: _____<br>Fax: _____<br>Email: _____                                                                                                                                 |  | Project Manager: <u>Bob T</u><br>ALPHAQuote #: _____<br>Turn-Around Time: _____<br>Standard <input checked="" type="checkbox"/> Due Date: _____<br>Rush (only if pre approved) <input type="checkbox"/> # of Days: _____ |  |                                                                                       |  | <b>Regulatory Requirement</b><br><input type="checkbox"/> SRS Residential/Non Residential<br><input type="checkbox"/> SRS Impact to Groundwater<br><input type="checkbox"/> NJ Ground Water Quality Standards<br><input type="checkbox"/> NJ IGW SPLP Leachate Criteria<br><input type="checkbox"/> Other |  | <b>Site Information</b><br>Is this site impacted by Petroleum? Yes <input checked="" type="checkbox"/><br>Petroleum Product: _____                                              |  |                                                                                                                                                                                                                                                                             |
| These samples have been previously analyzed by Alpha <input type="checkbox"/>                                                                                                                                                                   |  |                                                                                                                                                                                                                          |  |                                                                                       |  | <b>ANALYSIS</b>                                                                                                                                                                                                                                                                                           |  | <b>Sample Filtration</b><br><input type="checkbox"/> Done<br><input type="checkbox"/> Lab to do<br>Preservation<br><input type="checkbox"/> Lab to do<br>(Please Specify below) |  |                                                                                                                                                                                                                                                                             |
| <b>For EPH, selection is REQUIRED:</b><br><input type="checkbox"/> Category 1<br><input type="checkbox"/> Category 2                                                                                                                            |  | <b>For VOC, selection is REQUIRED:</b><br><input type="checkbox"/> 1,4-Dioxane<br><input type="checkbox"/> 8011                                                                                                          |  | <b>Other project specific requirements/comments:</b><br>Please specify Metals or TAL. |  |                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                 |  | Total Bottles                                                                                                                                                                                                                                                               |
| ALPHA Lab ID (Lab Use Only)                                                                                                                                                                                                                     |  | Sample ID                                                                                                                                                                                                                |  | Collection<br>Date    Time                                                            |  | Sample Matrix                                                                                                                                                                                                                                                                                             |  | Sampler's Initials                                                                                                                                                              |  |                                                                                                                                                                                                                                                                             |
| <u>34974-01</u><br><u>-02</u>                                                                                                                                                                                                                   |  | <u>CO 190-MWS</u><br><u>TB-WT-01</u>                                                                                                                                                                                     |  | <u>6/20/24</u> <u>1225</u>                                                            |  | <u>GW</u> <u>TS</u>                                                                                                                                                                                                                                                                                       |  | <u>TS</u>                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                 |  |                                                                                                                                                                                                                          |  |                                                                                       |  |                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                 |  |                                                                                                                                                                                                                          |  |                                                                                       |  |                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                 |  |                                                                                                                                                                                                                          |  |                                                                                       |  |                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                 |  |                                                                                                                                                                                                                          |  |                                                                                       |  |                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                 |  |                                                                                                                                                                                                                          |  |                                                                                       |  |                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                 |  |                                                                                                                                                                                                                          |  |                                                                                       |  |                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                 |  |                                                                                                                                                                                                                          |  |                                                                                       |  |                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                             |
| Preservative Code:<br>A = None<br>B = HCl<br>C = HNO <sub>3</sub><br>D = H <sub>2</sub> SO <sub>4</sub><br>E = NaOH<br>F = MeOH<br>G = NaHSO <sub>4</sub><br>H = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub><br>K/E = Zn Ac/NaOH<br>O = Other |  | Container Code<br>P = Plastic<br>A = Amber Glass<br>V = Vial<br>G = Glass<br>B = Bacteria Cup<br>C = Cube<br>O = Other<br>E = Encore<br>D = BOD Bottle                                                                   |  | Westboro: Certification No: MA935<br>Mansfield: Certification No: MA015               |  | Container Type <u>V</u>                                                                                                                                                                                                                                                                                   |  | Preservative <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. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS (See reverse side.) |
| Relinquished By <u>[Signature]</u>                                                                                                                                                                                                              |  | Date/Time <u>6/20/24 1308</u>                                                                                                                                                                                            |  | Received By <u>[Signature]</u>                                                        |  | Date/Time <u>6-20-24 1422</u>                                                                                                                                                                                                                                                                             |  |                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                             |
| <u>[Signature]</u>                                                                                                                                                                                                                              |  | <u>6-20-24 1500</u>                                                                                                                                                                                                      |  | <u>[Signature]</u>                                                                    |  | <u>6/20/24 1500</u>                                                                                                                                                                                                                                                                                       |  |                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                             |
| <u>[Signature]</u>                                                                                                                                                                                                                              |  | <u>6/20/24 2100</u>                                                                                                                                                                                                      |  | <u>[Signature]</u>                                                                    |  | <u>10/20 2155</u>                                                                                                                                                                                                                                                                                         |  |                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                             |
| <u>[Signature]</u>                                                                                                                                                                                                                              |  | <u>6/21/24 0105</u>                                                                                                                                                                                                      |  | <u>[Signature]</u>                                                                    |  | <u>6/21/24 0105</u>                                                                                                                                                                                                                                                                                       |  |                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                             |
| <u>[Signature]</u>                                                                                                                                                                                                                              |  | <u>6/21/24 0305</u>                                                                                                                                                                                                      |  | <u>[Signature]</u>                                                                    |  | <u>6/21/24 0305</u>                                                                                                                                                                                                                                                                                       |  |                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                             |



## ANALYTICAL REPORT

|                 |                                                                             |
|-----------------|-----------------------------------------------------------------------------|
| Lab Number:     | L2445494                                                                    |
| Client:         | Tradepoint Atlantic<br>1600 Sparrows Point Boulevard<br>Baltimore, MD 21219 |
| ATTN:           | Robert Tworkowski                                                           |
| Phone:          | (443) 649-5073                                                              |
| Project Name:   | COA GW                                                                      |
| Project Number: | 21010210                                                                    |
| Report Date:    | 08/19/24                                                                    |

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-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

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



**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445494  
**Report Date:** 08/19/24

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L2445494-01                | CO30-PZM015      | WATER         | Not Specified              | 08/12/24 13:30                  | 08/12/24            |
| L2445494-02                | CO195-MWS        | WATER         | Not Specified              | 08/12/24 14:50                  | 08/12/24            |
| L2445494-03                | TB-01            | WATER         | Not Specified              | 08/12/24 00:00                  | 08/12/24            |



**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445494  
**Report Date:** 08/19/24

### 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 and solids are reported on a dry weight basis unless otherwise noted. Tissues are reported "as received" or on a wet 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.

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**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445494  
**Report Date:** 08/19/24

**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: 08/19/24

# ORGANICS

# **VOLATILES**

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445494  
**Report Date:** 08/19/24

**SAMPLE RESULTS**

Lab ID: L2445494-01 D  
 Client ID: CO30-PZM015  
 Sample Location: Not Specified

Date Collected: 08/12/24 13:30  
 Date Received: 08/12/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 08/16/24 15:08  
 Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 23000  |           | ug/l  | 100 | 32. | 200             |
| Toluene                                      | 1900   |           | ug/l  | 150 | 41. | 200             |
| Ethylbenzene                                 | 45     | J         | ug/l  | 100 | 33. | 200             |
| p/m-Xylene                                   | 370    |           | ug/l  | 200 | 66. | 200             |
| o-Xylene                                     | 140    | J         | ug/l  | 200 | 78. | 200             |
| Xylenes, Total                               | 510    | J         | ug/l  | 200 | 66. | 200             |
| Naphthalene                                  | 1400   |           | ug/l  | 200 | 43. | 200             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 93         |           | 70-130              |
| Toluene-d8            | 96         |           | 70-130              |
| 4-Bromofluorobenzene  | 95         |           | 70-130              |
| Dibromofluoromethane  | 101        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445494  
**Report Date:** 08/19/24

**SAMPLE RESULTS**

Lab ID: L2445494-02 D  
 Client ID: CO195-MWS  
 Sample Location: Not Specified

Date Collected: 08/12/24 14:50  
 Date Received: 08/12/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 08/16/24 15:31  
 Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 30000  |           | ug/l  | 120 | 40. | 250             |
| Toluene                                      | 2400   |           | ug/l  | 190 | 51. | 250             |
| Ethylbenzene                                 | 58     | J         | ug/l  | 120 | 42. | 250             |
| p/m-Xylene                                   | 500    |           | ug/l  | 250 | 83. | 250             |
| o-Xylene                                     | 220    | J         | ug/l  | 250 | 98. | 250             |
| Xylenes, Total                               | 720    | J         | ug/l  | 250 | 83. | 250             |
| Naphthalene                                  | 1700   |           | ug/l  | 250 | 54. | 250             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 94         |           | 70-130              |
| Toluene-d8            | 96         |           | 70-130              |
| 4-Bromofluorobenzene  | 95         |           | 70-130              |
| Dibromofluoromethane  | 102        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445494  
**Report Date:** 08/19/24

**SAMPLE RESULTS**

**Lab ID:** L2445494-03  
**Client ID:** TB-01  
**Sample Location:** Not Specified

**Date Collected:** 08/12/24 00:00  
**Date Received:** 08/12/24  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 08/14/24 19:40  
**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 | 102        |           | 70-130              |
| Toluene-d8            | 95         |           | 70-130              |
| 4-Bromofluorobenzene  | 91         |           | 70-130              |
| Dibromofluoromethane  | 112        |           | 70-130              |



**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445494  
**Report Date:** 08/19/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 08/14/24 18:11  
**Analyst:** MAG

| Parameter                                                                         | Result | Qualifier | Units | RL   | MDL  |
|-----------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG1959704-5 |        |           |       |      |      |
| 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 | 97        |           | 70-130              |
| Toluene-d8            | 94        |           | 70-130              |
| 4-Bromofluorobenzene  | 92        |           | 70-130              |
| Dibromofluoromethane  | 110       |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445494  
**Report Date:** 08/19/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 08/16/24 09:57  
**Analyst:** PID

| Parameter                                                                            | Result | Qualifier | Units | RL   | MDL  |
|--------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1960851-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 99        |           | 70-130                 |
| Toluene-d8            | 99        |           | 70-130                 |
| 4-Bromofluorobenzene  | 94        |           | 70-130                 |
| Dibromofluoromethane  | 109       |           | 70-130                 |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445494  
**Report Date:** 08/19/24

| Parameter                                                                                            | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG1959704-3 WG1959704-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                              | 110              |      | 100               |      | 70-130              | 10  |      | 20            |
| Toluene                                                                                              | 100              |      | 98                |      | 70-130              | 2   |      | 20            |
| Ethylbenzene                                                                                         | 100              |      | 96                |      | 70-130              | 4   |      | 20            |
| p/m-Xylene                                                                                           | 105              |      | 95                |      | 70-130              | 10  |      | 20            |
| o-Xylene                                                                                             | 100              |      | 95                |      | 70-130              | 5   |      | 20            |
| Naphthalene                                                                                          | 83               |      | 83                |      | 70-130              | 0   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 100              |      | 99                |      | 70-130                 |
| Toluene-d8            | 97               |      | 96                |      | 70-130                 |
| 4-Bromofluorobenzene  | 89               |      | 90                |      | 70-130                 |
| Dibromofluoromethane  | 109              |      | 108               |      | 70-130                 |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445494  
**Report Date:** 08/19/24

| Parameter                                                                                               | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1960851-3 WG1960851-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                 | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| Toluene                                                                                                 | 110              |      | 100               |      | 70-130              | 10  |      | 20            |
| Ethylbenzene                                                                                            | 100              |      | 100               |      | 70-130              | 0   |      | 20            |
| p/m-Xylene                                                                                              | 105              |      | 100               |      | 70-130              | 5   |      | 20            |
| o-Xylene                                                                                                | 100              |      | 100               |      | 70-130              | 0   |      | 20            |
| Naphthalene                                                                                             | 83               |      | 82                |      | 70-130              | 1   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 99               |      | 104               |      | 70-130                 |
| Toluene-d8            | 99               |      | 97                |      | 70-130                 |
| 4-Bromofluorobenzene  | 95               |      | 91                |      | 70-130                 |
| Dibromofluoromethane  | 107              |      | 107               |      | 70-130                 |

**Project Name:** COA GW  
**Project Number:** 21010210

Serial\_No:08192414:27  
**Lab Number:** L2445494  
**Report Date:** 08/19/24

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

|               |                     |
|---------------|---------------------|
| <b>Cooler</b> | <b>Custody Seal</b> |
| A             | Absent              |

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|--------------------|
| L2445494-01A        | Vial HCl preserved    | A             | NA                    |                     | 5.3                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445494-01B        | Vial HCl preserved    | A             | NA                    |                     | 5.3                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445494-01C        | Vial HCl preserved    | A             | NA                    |                     | 5.3                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445494-02A        | Vial HCl preserved    | A             | NA                    |                     | 5.3                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445494-02B        | Vial HCl preserved    | A             | NA                    |                     | 5.3                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445494-02C        | Vial HCl preserved    | A             | NA                    |                     | 5.3                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445494-03A        | Vial HCl preserved    | A             | NA                    |                     | 5.3                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445494-03B        | Vial HCl preserved    | A             | NA                    |                     | 5.3                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445494-03C        | Vial HCl preserved    | A             | NA                    |                     | 5.3                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445494-03D        | Vial HCl preserved    | A             | NA                    |                     | 5.3                   | Y           | Absent      |                             | PA-8260(14)        |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445494  
**Report Date:** 08/19/24

## 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:** L2445494  
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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:** L2445494  
**Report Date:** 08/19/24

#### Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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:** L2445494  
**Report Date:** 08/19/24

## 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 624.1:** m/p-xylene, o-xylene, Naphthalene

**EPA 625.1:** alpha-Terpineol

**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

### Mansfield Facility

**SM 2540D:** TSS.

**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.

**Nonpotable Water:** **EPA RSK-175 Dissolved Gases**

**Biological Tissue Matrix:** EPA 3050B

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

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

**EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**

**EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

**SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.

**EPA 624.1:** Volatile Halocarbons & Aromatics,

**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, 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:     | L2445775                                                                    |
| Client:         | Tradepoint Atlantic<br>1600 Sparrows Point Boulevard<br>Baltimore, MD 21219 |
| ATTN:           | Robert Tworkowski                                                           |
| Phone:          | (443) 649-5073                                                              |
| Project Name:   | COA GW                                                                      |
| Project Number: | 21010210                                                                    |
| Report Date:    | 08/20/24                                                                    |

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-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

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



**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445775  
**Report Date:** 08/20/24

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L2445775-01                | CO41-PZM036      | WATER         | Not Specified              | 08/13/24 09:00                  | 08/13/24            |
| L2445775-02                | CO41-PZM001      | WATER         | Not Specified              | 08/13/24 11:20                  | 08/13/24            |
| L2445775-03                | CO27-PZM012      | WATER         | Not Specified              | 08/13/24 12:20                  | 08/13/24            |
| L2445775-04                | CO27-PZM046      | WATER         | Not Specified              | 08/13/24 13:10                  | 08/13/24            |
| L2445775-05                | CO93-PZM         | WATER         | Not Specified              | 08/13/24 14:50                  | 08/13/24            |
| L2445775-06                | TB-02            | WATER         | Not Specified              | 08/13/24 00:00                  | 08/13/24            |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445775  
**Report Date:** 08/20/24

### 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 and solids are reported on a dry weight basis unless otherwise noted. Tissues are reported "as received" or on a wet 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.

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**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445775  
**Report Date:** 08/20/24

**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: 08/20/24

# ORGANICS

# VOLATILES

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445775  
**Report Date:** 08/20/24

**SAMPLE RESULTS**

**Lab ID:** L2445775-01      D  
**Client ID:** CO41-PZM036  
**Sample Location:** Not Specified

**Date Collected:** 08/13/24 09:00  
**Date Received:** 08/13/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 08/15/24 16:07  
**Analyst:** MJV

| Parameter                                    | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |     |                 |
| Benzene                                      | 320000 |           | ug/l  | 1000 | 320 | 2000            |
| Toluene                                      | 100000 |           | ug/l  | 1500 | 410 | 2000            |
| Ethylbenzene                                 | 1100   |           | ug/l  | 1000 | 330 | 2000            |
| p/m-Xylene                                   | 16000  |           | ug/l  | 2000 | 660 | 2000            |
| o-Xylene                                     | 4800   |           | ug/l  | 2000 | 780 | 2000            |
| Xylenes, Total                               | 21000  |           | ug/l  | 2000 | 660 | 2000            |
| Naphthalene                                  | ND     |           | ug/l  | 2000 | 430 | 2000            |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 99         |           | 70-130              |
| Toluene-d8            | 100        |           | 70-130              |
| 4-Bromofluorobenzene  | 91         |           | 70-130              |
| Dibromofluoromethane  | 102        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445775  
**Report Date:** 08/20/24

**SAMPLE RESULTS**

Lab ID: L2445775-02 D  
 Client ID: CO41-PZM001  
 Sample Location: Not Specified

Date Collected: 08/13/24 11:20  
 Date Received: 08/13/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 08/15/24 16:31  
 Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |    |     |                 |
| Benzene                                      | 2000   |           | ug/l  | 10 | 3.2 | 20              |
| Toluene                                      | 590    |           | ug/l  | 15 | 4.1 | 20              |
| Ethylbenzene                                 | 27     |           | ug/l  | 10 | 3.3 | 20              |
| p/m-Xylene                                   | 200    |           | ug/l  | 20 | 6.6 | 20              |
| o-Xylene                                     | 36     |           | ug/l  | 20 | 7.8 | 20              |
| Xylenes, Total                               | 240    |           | ug/l  | 20 | 6.6 | 20              |
| Naphthalene                                  | 10     | J         | ug/l  | 20 | 4.3 | 20              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 96         |           | 70-130              |
| Toluene-d8            | 99         |           | 70-130              |
| 4-Bromofluorobenzene  | 95         |           | 70-130              |
| Dibromofluoromethane  | 105        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445775  
**Report Date:** 08/20/24

**SAMPLE RESULTS**

**Lab ID:** L2445775-03      D  
**Client ID:** CO27-PZM012  
**Sample Location:** Not Specified

**Date Collected:** 08/13/24 12:20  
**Date Received:** 08/13/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 08/15/24 16:56  
**Analyst:** MJV

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 10000  |           | ug/l  | 50  | 16. | 100             |
| Toluene                                      | 2700   |           | ug/l  | 75  | 20. | 100             |
| Ethylbenzene                                 | 120    |           | ug/l  | 50  | 17. | 100             |
| p/m-Xylene                                   | 640    |           | ug/l  | 100 | 33. | 100             |
| o-Xylene                                     | 280    |           | ug/l  | 100 | 39. | 100             |
| Xylenes, Total                               | 920    |           | ug/l  | 100 | 33. | 100             |
| Naphthalene                                  | 570    |           | ug/l  | 100 | 22. | 100             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 101        |           | 70-130              |
| Toluene-d8            | 99         |           | 70-130              |
| 4-Bromofluorobenzene  | 90         |           | 70-130              |
| Dibromofluoromethane  | 107        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445775  
**Report Date:** 08/20/24

**SAMPLE RESULTS**

**Lab ID:** L2445775-04      D  
**Client ID:** CO27-PZM046  
**Sample Location:** Not Specified

**Date Collected:** 08/13/24 13:10  
**Date Received:** 08/13/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 08/19/24 14:33  
**Analyst:** MJV

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 14000  |           | ug/l  | 50  | 16. | 100             |
| Toluene                                      | 4600   |           | ug/l  | 75  | 20. | 100             |
| Ethylbenzene                                 | 140    |           | ug/l  | 50  | 17. | 100             |
| p/m-Xylene                                   | 830    |           | ug/l  | 100 | 33. | 100             |
| o-Xylene                                     | 340    |           | ug/l  | 100 | 39. | 100             |
| Xylenes, Total                               | 1200   |           | ug/l  | 100 | 33. | 100             |
| Naphthalene                                  | 700    |           | ug/l  | 100 | 22. | 100             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 110        |           | 70-130              |
| Toluene-d8            | 99         |           | 70-130              |
| 4-Bromofluorobenzene  | 91         |           | 70-130              |
| Dibromofluoromethane  | 100        |           | 70-130              |



**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445775  
**Report Date:** 08/20/24

**SAMPLE RESULTS**

Lab ID: L2445775-05 D  
 Client ID: CO93-PZM  
 Sample Location: Not Specified

Date Collected: 08/13/24 14:50  
 Date Received: 08/13/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 08/16/24 14:46  
 Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |     |                 |
| Benzene                                      | 170000 |           | ug/l  | 500  | 160 | 1000            |
| Toluene                                      | 59000  |           | ug/l  | 750  | 200 | 1000            |
| Ethylbenzene                                 | 1200   |           | ug/l  | 500  | 170 | 1000            |
| p/m-Xylene                                   | 11000  |           | ug/l  | 1000 | 330 | 1000            |
| o-Xylene                                     | 3500   |           | ug/l  | 1000 | 390 | 1000            |
| Xylenes, Total                               | 15000  |           | ug/l  | 1000 | 330 | 1000            |
| Naphthalene                                  | 1700   |           | ug/l  | 1000 | 220 | 1000            |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 92         |           | 70-130              |
| Toluene-d8            | 95         |           | 70-130              |
| 4-Bromofluorobenzene  | 94         |           | 70-130              |
| Dibromofluoromethane  | 101        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445775  
**Report Date:** 08/20/24

**SAMPLE RESULTS**

**Lab ID:** L2445775-06  
**Client ID:** TB-02  
**Sample Location:** Not Specified

**Date Collected:** 08/13/24 00:00  
**Date Received:** 08/13/24  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 08/15/24 15:42  
**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 | 104        |           | 70-130              |
| Toluene-d8            | 98         |           | 70-130              |
| 4-Bromofluorobenzene  | 89         |           | 70-130              |
| Dibromofluoromethane  | 105        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445775  
**Report Date:** 08/20/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 08/15/24 08:16  
**Analyst:** PID

| Parameter                                                                               | Result | Qualifier | Units | RL   | MDL  |
|-----------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03,06 Batch: WG1960232-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 104       |           | 70-130                 |
| Toluene-d8            | 99        |           | 70-130                 |
| 4-Bromofluorobenzene  | 93        |           | 70-130                 |
| Dibromofluoromethane  | 111       |           | 70-130                 |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445775  
**Report Date:** 08/20/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 08/16/24 09:57  
**Analyst:** PID

| Parameter                                                                         | Result | Qualifier | Units | RL   | MDL  |
|-----------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 05 Batch: WG1960851-5 |        |           |       |      |      |
| 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            | 99        |           | 70-130              |
| 4-Bromofluorobenzene  | 94        |           | 70-130              |
| Dibromofluoromethane  | 109       |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445775  
**Report Date:** 08/20/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 08/19/24 12:34  
**Analyst:** PID

| Parameter                                                                         | Result | Qualifier | Units | RL   | MDL  |
|-----------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 04 Batch: WG1961333-5 |        |           |       |      |      |
| 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            | 101       |           | 70-130              |
| 4-Bromofluorobenzene  | 92        |           | 70-130              |
| Dibromofluoromethane  | 104       |           | 70-130              |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445775  
**Report Date:** 08/20/24

| Parameter                                                                                                  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|------------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03,06 Batch: WG1960232-3 WG1960232-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                    | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| Toluene                                                                                                    | 110              |      | 100               |      | 70-130              | 10  |      | 20            |
| Ethylbenzene                                                                                               | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| p/m-Xylene                                                                                                 | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| o-Xylene                                                                                                   | 110              |      | 105               |      | 70-130              | 5   |      | 20            |
| Naphthalene                                                                                                | 81               |      | 82                |      | 70-130              | 1   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 96               |      | 100               |      | 70-130                 |
| Toluene-d8            | 101              |      | 99                |      | 70-130                 |
| 4-Bromofluorobenzene  | 91               |      | 89                |      | 70-130                 |
| Dibromofluoromethane  | 101              |      | 107               |      | 70-130                 |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445775  
**Report Date:** 08/20/24

| Parameter                                                                                            | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05 Batch: WG1960851-3 WG1960851-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                              | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| Toluene                                                                                              | 110              |      | 100               |      | 70-130              | 10  |      | 20            |
| Ethylbenzene                                                                                         | 100              |      | 100               |      | 70-130              | 0   |      | 20            |
| p/m-Xylene                                                                                           | 105              |      | 100               |      | 70-130              | 5   |      | 20            |
| o-Xylene                                                                                             | 100              |      | 100               |      | 70-130              | 0   |      | 20            |
| Naphthalene                                                                                          | 83               |      | 82                |      | 70-130              | 1   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 99               |      | 104               |      | 70-130                 |
| Toluene-d8            | 99               |      | 97                |      | 70-130                 |
| 4-Bromofluorobenzene  | 95               |      | 91                |      | 70-130                 |
| Dibromofluoromethane  | 107              |      | 107               |      | 70-130                 |



## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445775  
**Report Date:** 08/20/24

| Parameter                                                                                            | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04 Batch: WG1961333-3 WG1961333-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                              | 97               |      | 98                |      | 70-130              | 1   |      | 20            |
| Toluene                                                                                              | 94               |      | 95                |      | 70-130              | 1   |      | 20            |
| Ethylbenzene                                                                                         | 91               |      | 93                |      | 70-130              | 2   |      | 20            |
| p/m-Xylene                                                                                           | 90               |      | 90                |      | 70-130              | 0   |      | 20            |
| o-Xylene                                                                                             | 90               |      | 95                |      | 70-130              | 5   |      | 20            |
| Naphthalene                                                                                          | 78               |      | 81                |      | 70-130              | 4   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 113              |      | 110               |      | 70-130                 |
| Toluene-d8            | 99               |      | 102               |      | 70-130                 |
| 4-Bromofluorobenzene  | 91               |      | 89                |      | 70-130                 |
| Dibromofluoromethane  | 100              |      | 99                |      | 70-130                 |

**Project Name:** COA GW**Lab Number:** L2445775**Project Number:** 21010210**Report Date:** 08/20/24**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

|               |                     |
|---------------|---------------------|
| <b>Cooler</b> | <b>Custody Seal</b> |
|---------------|---------------------|

A Absent

B Absent

C Absent

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|--------------------|
| L2445775-01A        | Vial HCl preserved    | B             | NA                    |                     | 2.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445775-01B        | Vial HCl preserved    | B             | NA                    |                     | 2.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445775-01C        | Vial HCl preserved    | B             | NA                    |                     | 2.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445775-02A        | Vial HCl preserved    | B             | NA                    |                     | 2.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445775-02B        | Vial HCl preserved    | B             | NA                    |                     | 2.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445775-02C        | Vial HCl preserved    | B             | NA                    |                     | 2.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445775-03A        | Vial HCl preserved    | B             | NA                    |                     | 2.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445775-03B        | Vial HCl preserved    | B             | NA                    |                     | 2.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445775-03C        | Vial HCl preserved    | B             | NA                    |                     | 2.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445775-04A        | Vial HCl preserved    | B             | NA                    |                     | 2.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445775-04B        | Vial HCl preserved    | B             | NA                    |                     | 2.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445775-04C        | Vial HCl preserved    | B             | NA                    |                     | 2.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445775-05A        | Vial HCl preserved    | B             | NA                    |                     | 2.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445775-05B        | Vial HCl preserved    | B             | NA                    |                     | 2.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445775-05C        | Vial HCl preserved    | B             | NA                    |                     | 2.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445775-06A        | Vial HCl preserved    | B             | NA                    |                     | 2.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445775-06B        | Vial HCl preserved    | B             | NA                    |                     | 2.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445775-06C        | Vial HCl preserved    | B             | NA                    |                     | 2.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2445775-06D        | Vial HCl preserved    | B             | NA                    |                     | 2.6                   | Y           | Absent      |                             | PA-8260(14)        |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2445775  
**Report Date:** 08/20/24

## GLOSSARY

### Acronyms

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DL       | - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                |
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                                                                                         |
| EMPC     | - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.                                                                                                                                                                                                                               |
| EPA      | - Environmental Protection Agency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                          |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                         |
| LOD      | - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                                                               |
| LOQ      | - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)<br><br>Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                          |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.                                                                                                                                                                                                    |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NA       | - Not Applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.                                                                                                                                                                                                                                                                                                                                                                           |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NI       | - Not Ignitable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NR       | - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.                                                                                                                                                                                                                                                                                                                                                                    |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                                                                                                                                   |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.                                                                  |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.                                                                                                                                                                                                                                                                                                                                                                     |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TEF      | - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.                                                                                                                                                                                                                                                                                                                                                                                             |
| TEQ      | - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.                                                                                                                                                                                                                                                                                                                                                        |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.                                                                                                                                                                                                                                                                      |

Report Format: DU Report with 'J' Qualifiers



**Project Name:** 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). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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:** L2445775  
**Report Date:** 08/20/24

## 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.



**Alpha Analytical, Inc.**Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 21

Published Date: 04/17/2024

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**Certification Information**

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

**Westborough Facility****EPA 624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625.1:** alpha-Terpineol**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility****SM 2540D:** TSS.**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.

**Nonpotable Water:** **EPA RSK-175 Dissolved Gases****Biological Tissue Matrix:** EPA 3050B

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

**Westborough Facility:****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, 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:     | L2447170                                                                    |
| Client:         | Tradepoint Atlantic<br>1600 Sparrows Point Boulevard<br>Baltimore, MD 21219 |
| ATTN:           | Robert Tworkowski                                                           |
| Phone:          | (443) 649-5073                                                              |
| Project Name:   | COA GW Q3 2024                                                              |
| Project Number: | 21010210                                                                    |
| Report Date:    | 08/26/24                                                                    |

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-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

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



**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2447170  
**Report Date:** 08/26/24

| Alpha<br>Sample ID | Client ID   | Matrix | Sample<br>Location | Collection<br>Date/Time | Receive Date |
|--------------------|-------------|--------|--------------------|-------------------------|--------------|
| L2447170-01        | CO57-PZP002 | WATER  | COA                | 08/19/24 14:30          | 08/19/24     |
| L2447170-02        | CO59-PZP002 | WATER  | COA                | 08/19/24 14:15          | 08/19/24     |
| L2447170-03        | TB-05       | WATER  | COA                | 08/19/24 00:00          | 08/19/24     |



**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2447170  
**Report Date:** 08/26/24

### 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 and solids are reported on a dry weight basis unless otherwise noted. Tissues are reported "as received" or on a wet 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.

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**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2447170  
**Report Date:** 08/26/24

**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: 08/26/24

# ORGANICS

# VOLATILES



**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2447170  
**Report Date:** 08/26/24

**SAMPLE RESULTS**

**Lab ID:** L2447170-01  
**Client ID:** CO57-PZP002  
**Sample Location:** COA

**Date Collected:** 08/19/24 14:30  
**Date Received:** 08/19/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 08/22/24 11:27  
**Analyst:** PID

| Parameter                                    | Result | Qualifier | Units | RL   | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |      |                 |
| Benzene                                      | 0.26   | J         | ug/l  | 0.50 | 0.16 | 1               |
| Toluene                                      | 0.44   | 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                                  | 0.62   | J         | 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  | 97         |           | 70-130              |
| Dibromofluoromethane  | 106        |           | 70-130              |

**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2447170  
**Report Date:** 08/26/24

**SAMPLE RESULTS**

**Lab ID:** L2447170-02  
**Client ID:** CO59-PZP002  
**Sample Location:** COA

**Date Collected:** 08/19/24 14:15  
**Date Received:** 08/19/24  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 08/22/24 11:01  
**Analyst:** PID

| Parameter                                    | Result | Qualifier | Units | RL   | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |      |                 |
| Benzene                                      | 0.19   | 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                                  | 0.90   | J         | ug/l  | 1.0  | 0.22 | 1               |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 110        |           | 70-130              |
| Toluene-d8            | 95         |           | 70-130              |
| 4-Bromofluorobenzene  | 96         |           | 70-130              |
| Dibromofluoromethane  | 105        |           | 70-130              |

**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2447170  
**Report Date:** 08/26/24

**SAMPLE RESULTS**

**Lab ID:** L2447170-03  
**Client ID:** TB-05  
**Sample Location:** COA

**Date Collected:** 08/19/24 00:00  
**Date Received:** 08/19/24  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 08/22/24 10:35  
**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 | 107        |           | 70-130              |
| Toluene-d8            | 96         |           | 70-130              |
| 4-Bromofluorobenzene  | 100        |           | 70-130              |
| Dibromofluoromethane  | 104        |           | 70-130              |

**Project Name:** COA GW Q3 2024  
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**Lab Number:** L2447170  
**Report Date:** 08/26/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 08/22/24 10:09  
**Analyst:** PID

| Parameter                                                                            | Result | Qualifier | Units | RL   | MDL  |
|--------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1963063-5 |        |           |       |      |      |
| 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                                                                          | 0.39   | J         | ug/l  | 1.0  | 0.22 |

| Surrogate             | %Recovery | Qualifier | Acceptance Criteria |
|-----------------------|-----------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 108       |           | 70-130              |
| Toluene-d8            | 97        |           | 70-130              |
| 4-Bromofluorobenzene  | 101       |           | 70-130              |
| Dibromofluoromethane  | 104       |           | 70-130              |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: COA GW Q3 2024

Project Number: 21010210

Lab Number: L2447170

Report Date: 08/26/24

| Parameter                                                                                               | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1963063-3 WG1963063-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                 | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| Toluene                                                                                                 | 100              |      | 100               |      | 70-130              | 0   |      | 20            |
| Ethylbenzene                                                                                            | 100              |      | 100               |      | 70-130              | 0   |      | 20            |
| p/m-Xylene                                                                                              | 110              |      | 105               |      | 70-130              | 5   |      | 20            |
| o-Xylene                                                                                                | 105              |      | 105               |      | 70-130              | 0   |      | 20            |
| Naphthalene                                                                                             | 96               |      | 90                |      | 70-130              | 6   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 104              |      | 100               |      | 70-130                 |
| Toluene-d8            | 98               |      | 98                |      | 70-130                 |
| 4-Bromofluorobenzene  | 106              |      | 103               |      | 70-130                 |
| Dibromofluoromethane  | 97               |      | 97                |      | 70-130                 |

**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

Serial\_No:08262413:39  
**Lab Number:** L2447170  
**Report Date:** 08/26/24

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

| <b>Cooler</b> | <b>Custody Seal</b> |
|---------------|---------------------|
| A             | Absent              |

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|--------------------|
| L2447170-01A        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |
| L2447170-01B        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |
| L2447170-01C        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |
| L2447170-02A        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |
| L2447170-02B        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |
| L2447170-02C        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |
| L2447170-03A        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |
| L2447170-03B        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |
| L2447170-03C        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |
| L2447170-03D        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |

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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.)<br><br>Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                          |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.                                                                                                                                                                                                    |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NA       | - Not Applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.                                                                                                                                                                                                                                                                                                                                                                           |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NI       | - Not Ignitable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NR       | - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.                                                                                                                                                                                                                                                                                                                                                                    |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                                                                                                                                   |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.                                                                  |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.                                                                                                                                                                                                                                                                                                                                                                     |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TEF      | - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.                                                                                                                                                                                                                                                                                                                                                                                             |
| TEQ      | - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.                                                                                                                                                                                                                                                                                                                                                        |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.                                                                                                                                                                                                                                                                      |

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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

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#### Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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.)

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**Project Number:** 21010210

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**Report Date:** 08/26/24

## 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.



**Alpha Analytical, Inc.**Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 21

Published Date: 04/17/2024

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**Certification Information**

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

**Westborough Facility****EPA 624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625.1:** alpha-Terpineol**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility****SM 2540D:** TSS.**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.

**Nonpotable Water:** **EPA RSK-175 Dissolved Gases****Biological Tissue Matrix:** EPA 3050B

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

**Westborough Facility:****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, 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.

|                                                                                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                                                                                                                        |  |                                                                                     |  |                                                                                                                                                                                 |  |                     |  |                                                                                                                                                                                                                                                                             |  |               |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------|---|
|  <b>NEW JERSEY CHAIN OF CUSTODY</b><br>Westborough, MA 01581<br>8 Walkup Dr.<br>TEL: 508-898-9220<br>FAX: 508-898-9193                                           |  | <b>Service Centers</b><br>Mahwah, NJ 07430: 35 Whitney Rd, Suite 5<br>Albany, NY 12205: 14 Walker Way<br>Tonawanda, NY 14150: 275 Cooper Ave, Suite 105                                                                                                                                                                                                             |  | Page<br>1 of 1                                                                                                                                                                         |  | Date Rec'd in Lab<br>8/20/24                                                        |  | ALPHA<br><b>L2447170 TRADEPO</b>                                                                                                                                                |  |                     |  |                                                                                                                                                                                                                                                                             |  |               |   |
|                                                                                                                                                                                                                                                 |  | <b>Project Information</b><br>Project Name: COA GW Q3 2024<br>Project Location: COA<br>Project #: 21010210<br>(Use Project name as Project #) <input type="checkbox"/><br>Project Manager: Bob T<br>ALPHAQuote #:<br>Turn-Around Time:<br>Standard <input checked="" type="checkbox"/> Due Date:<br>Rush (only if pre approved) <input type="checkbox"/> # of Days: |  | <b>Deliverables</b><br><input type="checkbox"/> NJ Full / Reduced<br><input type="checkbox"/> EQuIS (1 File) <input type="checkbox"/> EQuIS (4 File)<br><input type="checkbox"/> Other |  | <b>Billing Information</b><br><input type="checkbox"/> Same as Client Info<br>PO #: |  |                                                                                                                                                                                 |  |                     |  |                                                                                                                                                                                                                                                                             |  |               |   |
| <b>Client Information</b><br>Client: TradePoint Atlantic<br>Address: 4661 Bethelton Blvd<br>Spartanburg, SC, MD<br>Phone: 410-353-6509<br>Fax:<br>Email: kguyllie@angroup.net                                                                   |  | <b>Regulatory Requirement</b><br><input type="checkbox"/> SRS Residential/Non Residential<br><input type="checkbox"/> SRS Impact to Groundwater<br><input type="checkbox"/> NJ Ground Water Quality Standards<br><input type="checkbox"/> NJ IGW SPLP Leachate Criteria<br><input type="checkbox"/> Other                                                           |  | <b>Site Information</b><br>Is this site impacted by Petroleum? Yes <input type="checkbox"/><br>Petroleum Product:                                                                      |  |                                                                                     |  |                                                                                                                                                                                 |  |                     |  |                                                                                                                                                                                                                                                                             |  |               |   |
| These samples have been previously analyzed by Alpha <input type="checkbox"/><br>For EPH, selection is REQUIRED:<br><input type="checkbox"/> Category 1<br><input type="checkbox"/> Category 2                                                  |  | For VOC, selection is REQUIRED:<br><input type="checkbox"/> 1,4-Dioxane<br><input type="checkbox"/> 8011                                                                                                                                                                                                                                                            |  | Other project specific requirements/comments:<br>Please specify Metals or TAL.                                                                                                         |  | <b>ANALYSIS</b>                                                                     |  | <b>Sample Filtration</b><br><input type="checkbox"/> Done<br><input type="checkbox"/> Lab to do<br>Preservation<br><input type="checkbox"/> Lab to do<br>(Please Specify below) |  |                     |  |                                                                                                                                                                                                                                                                             |  |               |   |
| ALPHA Lab ID (Lab Use Only)                                                                                                                                                                                                                     |  | Sample ID                                                                                                                                                                                                                                                                                                                                                           |  | Collection<br>Date      Time                                                                                                                                                           |  | Sample Matrix                                                                       |  | Sampler's Initials                                                                                                                                                              |  | BTEX<br>Naphthalene |  | Sample Specific Comments                                                                                                                                                                                                                                                    |  | Total Bottles |   |
| 47170-01                                                                                                                                                                                                                                        |  | COS7-PZPO02                                                                                                                                                                                                                                                                                                                                                         |  | 08/19/24 1430                                                                                                                                                                          |  | GW                                                                                  |  | LEP                                                                                                                                                                             |  | X X                 |  | pH > 10                                                                                                                                                                                                                                                                     |  |               | 3 |
| 02                                                                                                                                                                                                                                              |  | COS9-PZPO02                                                                                                                                                                                                                                                                                                                                                         |  | 08/19/24 1415                                                                                                                                                                          |  | GW                                                                                  |  | LEP                                                                                                                                                                             |  | X X                 |  | pH > 10                                                                                                                                                                                                                                                                     |  |               | 3 |
| 03                                                                                                                                                                                                                                              |  | TB-05                                                                                                                                                                                                                                                                                                                                                               |  | 08/19/24 —                                                                                                                                                                             |  | —                                                                                   |  | —                                                                                                                                                                               |  | X X                 |  |                                                                                                                                                                                                                                                                             |  |               | 4 |
|                                                                                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                                                                                                                        |  |                                                                                     |  |                                                                                                                                                                                 |  |                     |  |                                                                                                                                                                                                                                                                             |  |               |   |
|                                                                                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                                                                                                                        |  |                                                                                     |  |                                                                                                                                                                                 |  |                     |  |                                                                                                                                                                                                                                                                             |  |               |   |
|                                                                                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                                                                                                                        |  |                                                                                     |  |                                                                                                                                                                                 |  |                     |  |                                                                                                                                                                                                                                                                             |  |               |   |
|                                                                                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                                                                                                                        |  |                                                                                     |  |                                                                                                                                                                                 |  |                     |  |                                                                                                                                                                                                                                                                             |  |               |   |
|                                                                                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                                                                                                                        |  |                                                                                     |  |                                                                                                                                                                                 |  |                     |  |                                                                                                                                                                                                                                                                             |  |               |   |
|                                                                                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                                                                                                                        |  |                                                                                     |  |                                                                                                                                                                                 |  |                     |  |                                                                                                                                                                                                                                                                             |  |               |   |
| Preservative Code:<br>A = None<br>B = HCl<br>C = HNO <sub>3</sub><br>D = H <sub>2</sub> SO <sub>4</sub><br>E = NaOH<br>F = MeOH<br>G = NaHSO <sub>4</sub><br>H = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub><br>K/E = Zn Ac/NaOH<br>O = Other |  | Container Code:<br>P = Plastic<br>A = Amber Glass<br>V = Vial<br>G = Glass<br>B = Bacteria Cup<br>C = Cube<br>O = Other<br>E = Encore<br>D = BOD Bottle                                                                                                                                                                                                             |  | Westboro: Certification No: MA935<br>Mansfield: Certification No: MA015                                                                                                                |  | Container Type<br>Preservative                                                      |  | V V<br>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. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS (See reverse side.) |  |               |   |
| Relinquished By:                                                                                                                                                                                                                                |  | Date/Time                                                                                                                                                                                                                                                                                                                                                           |  | Received By:                                                                                                                                                                           |  | Date/Time                                                                           |  |                                                                                                                                                                                 |  |                     |  |                                                                                                                                                                                                                                                                             |  |               |   |
| Lance Parker / LMP                                                                                                                                                                                                                              |  | 08/19/24 1530                                                                                                                                                                                                                                                                                                                                                       |  | Nelson Price                                                                                                                                                                           |  | 8-19-24 1530                                                                        |  |                                                                                                                                                                                 |  |                     |  |                                                                                                                                                                                                                                                                             |  |               |   |
| Nelson Price                                                                                                                                                                                                                                    |  | 8-19-24 1800                                                                                                                                                                                                                                                                                                                                                        |  | Nelson Price                                                                                                                                                                           |  | 8/19/24 1800                                                                        |  |                                                                                                                                                                                 |  |                     |  |                                                                                                                                                                                                                                                                             |  |               |   |
| Anthony Green                                                                                                                                                                                                                                   |  | 8/19/24 2000                                                                                                                                                                                                                                                                                                                                                        |  | Anthony Green                                                                                                                                                                          |  | AUG 19 2024 2154                                                                    |  |                                                                                                                                                                                 |  |                     |  |                                                                                                                                                                                                                                                                             |  |               |   |
| Chris Pace                                                                                                                                                                                                                                      |  | 8/20/24 0325                                                                                                                                                                                                                                                                                                                                                        |  | Tyler D. Poth                                                                                                                                                                          |  | 8/20/24 0325                                                                        |  |                                                                                                                                                                                 |  |                     |  |                                                                                                                                                                                                                                                                             |  |               |   |





## ANALYTICAL REPORT

|                 |                                                                             |
|-----------------|-----------------------------------------------------------------------------|
| Lab Number:     | L2446551                                                                    |
| Client:         | Tradepoint Atlantic<br>1600 Sparrows Point Boulevard<br>Baltimore, MD 21219 |
| ATTN:           | Robert Tworkowski                                                           |
| Phone:          | (443) 649-5073                                                              |
| Project Name:   | COA GW                                                                      |
| Project Number: | 21010210                                                                    |
| Report Date:    | 08/22/24                                                                    |

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-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

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



**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446551  
**Report Date:** 08/22/24

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L2446551-01                | CO55-PZM000      | WATER         | 21010210                   | 08/15/24 09:35                  | 08/15/24            |
| L2446551-02                | CO58-PZM001      | WATER         | 21010210                   | 08/15/24 11:30                  | 08/15/24            |
| L2446551-03                | TB-04            | WATER         | 21010210                   | 08/15/24 00:00                  | 08/15/24            |



**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446551  
**Report Date:** 08/22/24

### 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 and solids are reported on a dry weight basis unless otherwise noted. Tissues are reported "as received" or on a wet 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:** L2446551  
**Report Date:** 08/22/24

**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: 08/22/24

# ORGANICS

# VOLATILES

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446551  
**Report Date:** 08/22/24

**SAMPLE RESULTS**

**Lab ID:** L2446551-01  
**Client ID:** CO55-PZM000  
**Sample Location:** 21010210

**Date Collected:** 08/15/24 09:35  
**Date Received:** 08/15/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 08/19/24 11:03  
**Analyst:** MJV

| Parameter                                    | Result | Qualifier | Units | RL   | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |      |                 |
| Benzene                                      | 1.4    |           | 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                                   | 0.42   | J         | ug/l  | 1.0  | 0.33 | 1               |
| o-Xylene                                     | ND     |           | ug/l  | 1.0  | 0.39 | 1               |
| Xylenes, Total                               | 0.42   | J         | ug/l  | 1.0  | 0.33 | 1               |
| Naphthalene                                  | 1.2    |           | ug/l  | 1.0  | 0.22 | 1               |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 107        |           | 70-130              |
| Toluene-d8            | 99         |           | 70-130              |
| 4-Bromofluorobenzene  | 92         |           | 70-130              |
| Dibromofluoromethane  | 110        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446551  
**Report Date:** 08/22/24

**SAMPLE RESULTS**

**Lab ID:** L2446551-02  
**Client ID:** CO58-PZM001  
**Sample Location:** 21010210

**Date Collected:** 08/15/24 11:30  
**Date Received:** 08/15/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 08/21/24 09:57  
**Analyst:** MAG

| Parameter                                    | Result | Qualifier | Units | RL   | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |      |                 |
| Benzene                                      | 29     |           | ug/l  | 0.50 | 0.16 | 1               |
| Toluene                                      | 3.4    |           | ug/l  | 0.75 | 0.20 | 1               |
| Ethylbenzene                                 | 1.2    |           | ug/l  | 0.50 | 0.17 | 1               |
| p/m-Xylene                                   | 16     |           | ug/l  | 1.0  | 0.33 | 1               |
| o-Xylene                                     | 6.6    |           | ug/l  | 1.0  | 0.39 | 1               |
| Xylenes, Total                               | 23     |           | ug/l  | 1.0  | 0.33 | 1               |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 107        |           | 70-130              |
| Toluene-d8            | 96         |           | 70-130              |
| 4-Bromofluorobenzene  | 97         |           | 70-130              |
| Dibromofluoromethane  | 101        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446551  
**Report Date:** 08/22/24

**SAMPLE RESULTS**

Lab ID: L2446551-02 D  
 Client ID: CO58-PZM001  
 Sample Location: 21010210

Date Collected: 08/15/24 11:30  
 Date Received: 08/15/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 08/21/24 22:15  
 Analyst: MJV

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

|                                              |  |  |  |  |  |  |
|----------------------------------------------|--|--|--|--|--|--|
| Volatile Organics by GC/MS - Westborough Lab |  |  |  |  |  |  |
|----------------------------------------------|--|--|--|--|--|--|

|             |     |  |      |     |     |   |
|-------------|-----|--|------|-----|-----|---|
| Naphthalene | 170 |  | ug/l | 5.0 | 1.1 | 5 |
|-------------|-----|--|------|-----|-----|---|

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 105        |           | 70-130              |
| Toluene-d8            | 95         |           | 70-130              |
| 4-Bromofluorobenzene  | 91         |           | 70-130              |
| Dibromofluoromethane  | 102        |           | 70-130              |



**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446551  
**Report Date:** 08/22/24

**SAMPLE RESULTS**

Lab ID: L2446551-03  
 Client ID: TB-04  
 Sample Location: 21010210

Date Collected: 08/15/24 00:00  
 Date Received: 08/15/24  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 08/19/24 09:24  
 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 | 101        |           | 70-130              |
| Toluene-d8            | 102        |           | 70-130              |
| 4-Bromofluorobenzene  | 95         |           | 70-130              |
| Dibromofluoromethane  | 107        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446551  
**Report Date:** 08/22/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 08/19/24 07:46  
**Analyst:** MJV

| Parameter                                                                            | Result | Qualifier | Units | RL   | MDL  |
|--------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01,03 Batch: WG1960969-5 |        |           |       |      |      |
| 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 | 102       |           | 70-130              |
| Toluene-d8            | 100       |           | 70-130              |
| 4-Bromofluorobenzene  | 92        |           | 70-130              |
| Dibromofluoromethane  | 106       |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446551  
**Report Date:** 08/22/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 08/21/24 09:31  
**Analyst:** PID

| Parameter                                                                         | Result | Qualifier | Units | RL   | MDL  |
|-----------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1962412-5 |        |           |       |      |      |
| 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                                                                       | 0.39   | J         | ug/l  | 1.0  | 0.22 |

| Surrogate             | %Recovery | Qualifier | Acceptance Criteria |
|-----------------------|-----------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 110       |           | 70-130              |
| Toluene-d8            | 99        |           | 70-130              |
| 4-Bromofluorobenzene  | 98        |           | 70-130              |
| Dibromofluoromethane  | 105       |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446551  
**Report Date:** 08/22/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 08/21/24 19:43  
**Analyst:** MAG

| Parameter                                                                         | Result | Qualifier | Units | RL   | MDL  |
|-----------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1962544-5 |        |           |       |      |      |
| 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                                                                       | 0.29   | J         | ug/l  | 1.0  | 0.22 |

| Surrogate             | %Recovery | Qualifier | Acceptance Criteria |
|-----------------------|-----------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 101       |           | 70-130              |
| Toluene-d8            | 96        |           | 70-130              |
| 4-Bromofluorobenzene  | 91        |           | 70-130              |
| Dibromofluoromethane  | 98        |           | 70-130              |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446551  
**Report Date:** 08/22/24

| Parameter                                                                                               | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03 Batch: WG1960969-3 WG1960969-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                 | 100              |      | 110               |      | 70-130              | 10  |      | 20            |
| Toluene                                                                                                 | 100              |      | 110               |      | 70-130              | 10  |      | 20            |
| Ethylbenzene                                                                                            | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| p/m-Xylene                                                                                              | 110              |      | 115               |      | 70-130              | 4   |      | 20            |
| o-Xylene                                                                                                | 110              |      | 115               |      | 70-130              | 4   |      | 20            |
| Naphthalene                                                                                             | 77               |      | 79                |      | 70-130              | 3   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 95               |      | 97                |      | 70-130                 |
| Toluene-d8            | 98               |      | 99                |      | 70-130                 |
| 4-Bromofluorobenzene  | 89               |      | 90                |      | 70-130                 |
| Dibromofluoromethane  | 103              |      | 105               |      | 70-130                 |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446551  
**Report Date:** 08/22/24

| Parameter                                                                                            | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1962412-3 WG1962412-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                              | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| Toluene                                                                                              | 110              |      | 100               |      | 70-130              | 10  |      | 20            |
| Ethylbenzene                                                                                         | 100              |      | 100               |      | 70-130              | 0   |      | 20            |
| p/m-Xylene                                                                                           | 115              |      | 110               |      | 70-130              | 4   |      | 20            |
| o-Xylene                                                                                             | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| Naphthalene                                                                                          | 100              |      | 100               |      | 70-130              | 0   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 107              |      | 104               |      | 70-130                 |
| Toluene-d8            | 98               |      | 99                |      | 70-130                 |
| 4-Bromofluorobenzene  | 100              |      | 99                |      | 70-130                 |
| Dibromofluoromethane  | 101              |      | 102               |      | 70-130                 |

# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446551  
**Report Date:** 08/22/24

| Parameter                                                                                            | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1962544-3 WG1962544-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                              | 96               |      | 94                |      | 70-130              | 2   |      | 20            |
| Toluene                                                                                              | 93               |      | 92                |      | 70-130              | 1   |      | 20            |
| Ethylbenzene                                                                                         | 96               |      | 95                |      | 70-130              | 1   |      | 20            |
| p/m-Xylene                                                                                           | 100              |      | 95                |      | 70-130              | 5   |      | 20            |
| o-Xylene                                                                                             | 95               |      | 95                |      | 70-130              | 0   |      | 20            |
| Naphthalene                                                                                          | 85               |      | 91                |      | 70-130              | 7   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 102              |      | 100               |      | 70-130                 |
| Toluene-d8            | 97               |      | 96                |      | 70-130                 |
| 4-Bromofluorobenzene  | 93               |      | 94                |      | 70-130                 |
| Dibromofluoromethane  | 99               |      | 98                |      | 70-130                 |



**Project Name:** COA GW**Lab Number:** L2446551**Project Number:** 21010210**Report Date:** 08/22/24**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

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

A                                  Absent

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|--------------------|
| L2446551-01A        | Vial HCl preserved    | A             | NA                    |                     | 4.5                   | Y           | Absent      |                             | PA-8260(14)        |
| L2446551-01B        | Vial HCl preserved    | A             | NA                    |                     | 4.5                   | Y           | Absent      |                             | PA-8260(14)        |
| L2446551-01C        | Vial HCl preserved    | A             | NA                    |                     | 4.5                   | Y           | Absent      |                             | PA-8260(14)        |
| L2446551-02A        | Vial HCl preserved    | A             | NA                    |                     | 4.5                   | Y           | Absent      |                             | PA-8260(14)        |
| L2446551-02B        | Vial HCl preserved    | A             | NA                    |                     | 4.5                   | Y           | Absent      |                             | PA-8260(14)        |
| L2446551-02C        | Vial HCl preserved    | A             | NA                    |                     | 4.5                   | Y           | Absent      |                             | PA-8260(14)        |
| L2446551-03A        | Vial HCl preserved    | A             | NA                    |                     | 4.5                   | Y           | Absent      |                             | PA-8260(14)        |
| L2446551-03B        | Vial HCl preserved    | A             | NA                    |                     | 4.5                   | Y           | Absent      |                             | PA-8260(14)        |
| L2446551-03C        | Vial HCl preserved    | A             | NA                    |                     | 4.5                   | Y           | Absent      |                             | PA-8260(14)        |
| L2446551-03D        | Vial HCl preserved    | A             | NA                    |                     | 4.5                   | Y           | Absent      |                             | PA-8260(14)        |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446551  
**Report Date:** 08/22/24

## GLOSSARY

### Acronyms

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DL       | - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                |
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                                                                                         |
| EMPC     | - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.                                                                                                                                                                                                                               |
| EPA      | - Environmental Protection Agency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                          |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                         |
| LOD      | - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                                                               |
| LOQ      | - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)<br><br>Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                          |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.                                                                                                                                                                                                    |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NA       | - Not Applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.                                                                                                                                                                                                                                                                                                                                                                           |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NI       | - Not Ignitable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NR       | - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.                                                                                                                                                                                                                                                                                                                                                                    |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                                                                                                                                   |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.                                                                  |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.                                                                                                                                                                                                                                                                                                                                                                     |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TEF      | - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.                                                                                                                                                                                                                                                                                                                                                                                             |
| TEQ      | - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.                                                                                                                                                                                                                                                                                                                                                        |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.                                                                                                                                                                                                                                                                      |

Report Format: DU Report with 'J' Qualifiers



**Project Name:** COA GW  
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**Lab Number:** L2446551  
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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). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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:** L2446551  
**Report Date:** 08/22/24

## 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.



**Alpha Analytical, Inc.**Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 21

Published Date: 04/17/2024

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**Certification Information**

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

**Westborough Facility****EPA 624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625.1:** alpha-Terpineol**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility****SM 2540D:** TSS.**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.

**Nonpotable Water:** **EPA RSK-175 Dissolved Gases****Biological Tissue Matrix:** EPA 3050B

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

**Westborough Facility:****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, 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:     | L2446133                                                                    |
| Client:         | Tradepoint Atlantic<br>1600 Sparrows Point Boulevard<br>Baltimore, MD 21219 |
| ATTN:           | Robert Tworkowski                                                           |
| Phone:          | (443) 649-5073                                                              |
| Project Name:   | COA GW                                                                      |
| Project Number: | 21010210                                                                    |
| Report Date:    | 08/21/24                                                                    |

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-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

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**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446133  
**Report Date:** 08/21/24

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L2446133-01                | CO190-MWS        | WATER         | Not Specified              | 08/14/24 11:30                  | 08/14/24            |
| L2446133-02                | CO56-PZP001      | WATER         | Not Specified              | 08/14/24 12:50                  | 08/14/24            |
| L2446133-03                | CO26-PZM007      | WATER         | Not Specified              | 08/14/24 13:50                  | 08/14/24            |
| L2446133-04                | TB-03            | WATER         | Not Specified              | 08/14/24 00:00                  | 08/14/24            |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446133  
**Report Date:** 08/21/24

### 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 and solids are reported on a dry weight basis unless otherwise noted. Tissues are reported "as received" or on a wet 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.

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**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446133  
**Report Date:** 08/21/24

**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: 08/21/24

# ORGANICS

# VOLATILES

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446133  
**Report Date:** 08/21/24

**SAMPLE RESULTS**

Lab ID: L2446133-01 D  
 Client ID: CO190-MWS  
 Sample Location: Not Specified

Date Collected: 08/14/24 11:30  
 Date Received: 08/14/24  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 08/17/24 11:40  
 Analyst: PID

| Parameter                                    | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |     |                 |
| Benzene                                      | 96000  |           | ug/l  | 500  | 160 | 1000            |
| Toluene                                      | 5300   |           | ug/l  | 750  | 200 | 1000            |
| Ethylbenzene                                 | ND     |           | 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                                  | 320    | J         | ug/l  | 1000 | 220 | 1000            |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 86         |           | 70-130              |
| Toluene-d8            | 97         |           | 70-130              |
| 4-Bromofluorobenzene  | 94         |           | 70-130              |
| Dibromofluoromethane  | 98         |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446133  
**Report Date:** 08/21/24

**SAMPLE RESULTS**

Lab ID: L2446133-02 D  
 Client ID: CO56-PZP001  
 Sample Location: Not Specified

Date Collected: 08/14/24 12:50  
 Date Received: 08/14/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 08/17/24 12:04  
 Analyst: PID

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 94     |           | ug/l  | 5.0 | 1.6 | 10              |
| Toluene                                      | 28     |           | ug/l  | 7.5 | 2.0 | 10              |
| Ethylbenzene                                 | 4.8    | J         | ug/l  | 5.0 | 1.7 | 10              |
| p/m-Xylene                                   | 77     |           | ug/l  | 10  | 3.3 | 10              |
| o-Xylene                                     | 29     |           | ug/l  | 10  | 3.9 | 10              |
| Xylenes, Total                               | 110    |           | ug/l  | 10  | 3.3 | 10              |
| Naphthalene                                  | 1200   |           | ug/l  | 10  | 2.2 | 10              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 89         |           | 70-130              |
| Toluene-d8            | 96         |           | 70-130              |
| 4-Bromofluorobenzene  | 95         |           | 70-130              |
| Dibromofluoromethane  | 100        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446133  
**Report Date:** 08/21/24

**SAMPLE RESULTS**

Lab ID: L2446133-03 D  
 Client ID: CO26-PZM007  
 Sample Location: Not Specified

Date Collected: 08/14/24 13:50  
 Date Received: 08/14/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 08/17/24 12:29  
 Analyst: PID

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 160    |           | ug/l  | 5.0 | 1.6 | 10              |
| Toluene                                      | 79     |           | ug/l  | 7.5 | 2.0 | 10              |
| Ethylbenzene                                 | 3.7    | J         | ug/l  | 5.0 | 1.7 | 10              |
| p/m-Xylene                                   | 56     |           | ug/l  | 10  | 3.3 | 10              |
| o-Xylene                                     | 23     |           | ug/l  | 10  | 3.9 | 10              |
| Xylenes, Total                               | 79     |           | ug/l  | 10  | 3.3 | 10              |
| Naphthalene                                  | 800    |           | ug/l  | 10  | 2.2 | 10              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 88         |           | 70-130              |
| Toluene-d8            | 96         |           | 70-130              |
| 4-Bromofluorobenzene  | 95         |           | 70-130              |
| Dibromofluoromethane  | 102        |           | 70-130              |



**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446133  
**Report Date:** 08/21/24

**SAMPLE RESULTS**

**Lab ID:** L2446133-04  
**Client ID:** TB-03  
**Sample Location:** Not Specified

**Date Collected:** 08/14/24 00:00  
**Date Received:** 08/14/24  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 08/17/24 12:53  
**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                                  | 0.92   | J         | ug/l  | 1.0  | 0.22 | 1               |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 89         |           | 70-130              |
| Toluene-d8            | 96         |           | 70-130              |
| 4-Bromofluorobenzene  | 93         |           | 70-130              |
| Dibromofluoromethane  | 103        |           | 70-130              |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446133  
**Report Date:** 08/21/24

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260D  
Analytical Date: 08/17/24 08:47  
Analyst: TMS

| Parameter                                                                            | Result | Qualifier | Units | RL   | MDL  |
|--------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1961181-5 |        |           |       |      |      |
| 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                                                                          | 0.30   | J         | 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  | 94        |           | 70-130              |
| Dibromofluoromethane  | 101       |           | 70-130              |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446133  
**Report Date:** 08/21/24

| Parameter                                                                                               | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1961181-3 WG1961181-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                 | 90               |      | 91                |      | 70-130              | 1   |      | 20            |
| Toluene                                                                                                 | 95               |      | 97                |      | 70-130              | 2   |      | 20            |
| Ethylbenzene                                                                                            | 99               |      | 100               |      | 70-130              | 1   |      | 20            |
| p/m-Xylene                                                                                              | 100              |      | 100               |      | 70-130              | 0   |      | 20            |
| o-Xylene                                                                                                | 100              |      | 100               |      | 70-130              | 0   |      | 20            |
| Naphthalene                                                                                             | 91               |      | 92                |      | 70-130              | 1   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 87               |      | 87                |      | 70-130                 |
| Toluene-d8            | 98               |      | 99                |      | 70-130                 |
| 4-Bromofluorobenzene  | 98               |      | 97                |      | 70-130                 |
| Dibromofluoromethane  | 98               |      | 98                |      | 70-130                 |

**Project Name:** COA GW  
**Project Number:** 21010210

Serial\_No:08212412:49  
**Lab Number:** L2446133  
**Report Date:** 08/21/24

**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

|               |                     |
|---------------|---------------------|
| <b>Cooler</b> | <b>Custody Seal</b> |
| A             | Absent              |

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial pH</b> | <b>Final pH</b> | <b>Temp deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-------------------|-----------------|-------------------|-------------|-------------|-------------------------|--------------------|
| L2446133-01A        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2446133-01B        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2446133-01C        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2446133-02A        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2446133-02B        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2446133-02C        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2446133-03A        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2446133-03B        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2446133-03C        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2446133-04A        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2446133-04B        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2446133-04C        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2446133-04D        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |

**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446133  
**Report Date:** 08/21/24

## GLOSSARY

### Acronyms

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DL       | - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                |
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                                                                                         |
| EMPC     | - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.                                                                                                                                                                                                                               |
| EPA      | - Environmental Protection Agency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                          |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                         |
| LOD      | - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                                                               |
| LOQ      | - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)<br><br>Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                          |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.                                                                                                                                                                                                    |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NA       | - Not Applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.                                                                                                                                                                                                                                                                                                                                                                           |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NI       | - Not Ignitable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NR       | - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.                                                                                                                                                                                                                                                                                                                                                                    |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                                                                                                                                   |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.                                                                  |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.                                                                                                                                                                                                                                                                                                                                                                     |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TEF      | - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.                                                                                                                                                                                                                                                                                                                                                                                             |
| TEQ      | - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.                                                                                                                                                                                                                                                                                                                                                        |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.                                                                                                                                                                                                                                                                      |

*Report Format: DU Report with 'J' Qualifiers*



**Project Name:** COA GW  
**Project Number:** 21010210

**Lab Number:** L2446133  
**Report Date:** 08/21/24

### 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:** L2446133  
**Report Date:** 08/21/24

#### Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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:** L2446133  
**Report Date:** 08/21/24

## 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.





**Alpha Analytical, Inc.**Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 21

Published Date: 04/17/2024

Page 1 of 1

**Certification Information**

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

**Westborough Facility****EPA 624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625.1:** alpha-Terpineol**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility****SM 2540D:** TSS.**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.

**Nonpotable Water:** **EPA RSK-175 Dissolved Gases****Biological Tissue Matrix:** EPA 3050B

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

**Westborough Facility:****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, 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:     | L2447404                                                                    |
| Client:         | Tradepoint Atlantic<br>1600 Sparrows Point Boulevard<br>Baltimore, MD 21219 |
| ATTN:           | Robert Tworkowski                                                           |
| Phone:          | (443) 649-5073                                                              |
| Project Name:   | COA GW Q3 2024                                                              |
| Project Number: | 21010210                                                                    |
| Report Date:    | 08/27/24                                                                    |

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-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

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



**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2447404  
**Report Date:** 08/27/24

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L2447404-01                | CO206R-MW5       | WATER         | COA                        | 08/20/24 10:45                  | 08/20/24            |
| L2447404-02                | CO25-PZM008      | WATER         | COA                        | 08/20/24 11:50                  | 08/20/24            |
| L2447404-03                | CO23-PZM008      | WATER         | COA                        | 08/20/24 13:05                  | 08/20/24            |
| L2447404-04                | CO24-PZM007      | WATER         | COA                        | 08/20/24 14:10                  | 08/20/24            |
| L2447404-05                | TB-06            | WATER         | COA                        | 08/20/24 00:00                  | 08/20/24            |

**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2447404  
**Report Date:** 08/27/24

### 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 and solids are reported on a dry weight basis unless otherwise noted. Tissues are reported "as received" or on a wet 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.

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**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2447404  
**Report Date:** 08/27/24

**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: 08/27/24

# ORGANICS

# **VOLATILES**



**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2447404  
**Report Date:** 08/27/24

**SAMPLE RESULTS**

**Lab ID:** L2447404-01      D  
**Client ID:** CO206R-MW5  
**Sample Location:** COA

**Date Collected:** 08/20/24 10:45  
**Date Received:** 08/20/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 08/23/24 12:34  
**Analyst:** PID

| Parameter                                    | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |    |     |                 |
| Benzene                                      | 260    |           | ug/l  | 10 | 3.2 | 20              |
| Toluene                                      | 110    |           | ug/l  | 15 | 4.1 | 20              |
| Ethylbenzene                                 | 10     |           | ug/l  | 10 | 3.3 | 20              |
| p/m-Xylene                                   | 150    |           | ug/l  | 20 | 6.6 | 20              |
| o-Xylene                                     | 60     |           | ug/l  | 20 | 7.8 | 20              |
| Xylenes, Total                               | 210    |           | ug/l  | 20 | 6.6 | 20              |
| Naphthalene                                  | 1800   |           | ug/l  | 20 | 4.3 | 20              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 101        |           | 70-130              |
| Toluene-d8            | 101        |           | 70-130              |
| 4-Bromofluorobenzene  | 90         |           | 70-130              |
| Dibromofluoromethane  | 107        |           | 70-130              |

**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2447404  
**Report Date:** 08/27/24

**SAMPLE RESULTS**

**Lab ID:** L2447404-02      D  
**Client ID:** CO25-PZM008  
**Sample Location:** COA

**Date Collected:** 08/20/24 11:50  
**Date Received:** 08/20/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 08/26/24 19:21  
**Analyst:** MJV

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 1100   |           | ug/l  | 50  | 16. | 100             |
| Toluene                                      | 1000   |           | ug/l  | 75  | 20. | 100             |
| Ethylbenzene                                 | 36     | J         | ug/l  | 50  | 17. | 100             |
| p/m-Xylene                                   | 680    |           | ug/l  | 100 | 33. | 100             |
| o-Xylene                                     | 240    |           | ug/l  | 100 | 39. | 100             |
| Xylenes, Total                               | 920    |           | ug/l  | 100 | 33. | 100             |
| Naphthalene                                  | 13000  |           | ug/l  | 100 | 22. | 100             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 105        |           | 70-130              |
| Toluene-d8            | 99         |           | 70-130              |
| 4-Bromofluorobenzene  | 91         |           | 70-130              |
| Dibromofluoromethane  | 111        |           | 70-130              |

**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2447404  
**Report Date:** 08/27/24

**SAMPLE RESULTS**

**Lab ID:** L2447404-03      D  
**Client ID:** CO23-PZM008  
**Sample Location:** COA

**Date Collected:** 08/20/24 13:05  
**Date Received:** 08/20/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 08/23/24 13:22  
**Analyst:** PID

| Parameter                                    | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |    |     |                 |
| Benzene                                      | 390    |           | ug/l  | 20 | 6.4 | 40              |
| Toluene                                      | 190    |           | ug/l  | 30 | 8.1 | 40              |
| Ethylbenzene                                 | 21     |           | ug/l  | 20 | 6.7 | 40              |
| p/m-Xylene                                   | 260    |           | ug/l  | 40 | 13. | 40              |
| o-Xylene                                     | 100    |           | ug/l  | 40 | 16. | 40              |
| Xylenes, Total                               | 360    |           | ug/l  | 40 | 13. | 40              |
| Naphthalene                                  | 3200   |           | ug/l  | 40 | 8.6 | 40              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 102        |           | 70-130              |
| Toluene-d8            | 101        |           | 70-130              |
| 4-Bromofluorobenzene  | 89         |           | 70-130              |
| Dibromofluoromethane  | 108        |           | 70-130              |

**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2447404  
**Report Date:** 08/27/24

**SAMPLE RESULTS**

Lab ID: L2447404-04 D  
 Client ID: CO24-PZM007  
 Sample Location: COA

Date Collected: 08/20/24 14:10  
 Date Received: 08/20/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 08/26/24 18:56  
 Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 3.2    | J         | ug/l  | 5.0 | 1.6 | 10              |
| Toluene                                      | ND     |           | ug/l  | 7.5 | 2.0 | 10              |
| Ethylbenzene                                 | 3.2    | J         | ug/l  | 5.0 | 1.7 | 10              |
| p/m-Xylene                                   | 3.4    | J         | ug/l  | 10  | 3.3 | 10              |
| o-Xylene                                     | ND     |           | ug/l  | 10  | 3.9 | 10              |
| Xylenes, Total                               | 3.4    | J         | ug/l  | 10  | 3.3 | 10              |
| Naphthalene                                  | 1400   |           | ug/l  | 10  | 2.2 | 10              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 103        |           | 70-130              |
| Toluene-d8            | 99         |           | 70-130              |
| 4-Bromofluorobenzene  | 88         |           | 70-130              |
| Dibromofluoromethane  | 112        |           | 70-130              |

**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2447404  
**Report Date:** 08/27/24

**SAMPLE RESULTS**

**Lab ID:** L2447404-05  
**Client ID:** TB-06  
**Sample Location:** COA

**Date Collected:** 08/20/24 00:00  
**Date Received:** 08/20/24  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 08/23/24 12:09  
**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 | 101        |           | 70-130              |
| Toluene-d8            | 99         |           | 70-130              |
| 4-Bromofluorobenzene  | 94         |           | 70-130              |
| Dibromofluoromethane  | 109        |           | 70-130              |

**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2447404  
**Report Date:** 08/27/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 08/23/24 11:45  
**Analyst:** PID

| Parameter                                                                               | Result | Qualifier | Units | RL   | MDL  |
|-----------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01,03,05 Batch: WG1963905-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 101       |           | 70-130                 |
| Toluene-d8            | 99        |           | 70-130                 |
| 4-Bromofluorobenzene  | 93        |           | 70-130                 |
| Dibromofluoromethane  | 107       |           | 70-130                 |

**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2447404  
**Report Date:** 08/27/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 08/26/24 18:31  
**Analyst:** MAG

| Parameter                                                                            | Result | Qualifier | Units | RL   | MDL  |
|--------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 02,04 Batch: WG1964216-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 103       |           | 70-130                 |
| Toluene-d8            | 99        |           | 70-130                 |
| 4-Bromofluorobenzene  | 91        |           | 70-130                 |
| Dibromofluoromethane  | 110       |           | 70-130                 |

# **Lab Control Sample Analysis** Batch Quality Control

Project Name: COA GW Q3 2024

Project Number: 21010210

Lab Number: L2447404

Report Date: 08/27/24

| Parameter                                                                                                  | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|------------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03,05 Batch: WG1963905-3 WG1963905-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                    | 97               |      | 100               |      | 70-130              | 3   |      | 20            |
| Toluene                                                                                                    | 94               |      | 99                |      | 70-130              | 5   |      | 20            |
| Ethylbenzene                                                                                               | 94               |      | 100               |      | 70-130              | 6   |      | 20            |
| p/m-Xylene                                                                                                 | 100              |      | 105               |      | 70-130              | 5   |      | 20            |
| o-Xylene                                                                                                   | 100              |      | 105               |      | 70-130              | 5   |      | 20            |
| Naphthalene                                                                                                | 79               |      | 80                |      | 70-130              | 1   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 94               |      | 98                |      | 70-130                 |
| Toluene-d8            | 100              |      | 101               |      | 70-130                 |
| 4-Bromofluorobenzene  | 92               |      | 91                |      | 70-130                 |
| Dibromofluoromethane  | 100              |      | 102               |      | 70-130                 |



## Lab Control Sample Analysis

### Batch Quality Control

Project Name: COA GW Q3 2024

Project Number: 21010210

Lab Number: L2447404

Report Date: 08/27/24

| Parameter                                                                                               | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02,04 Batch: WG1964216-3 WG1964216-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                 | 110              |      | 120               |      | 70-130              | 9   |      | 20            |
| Toluene                                                                                                 | 110              |      | 110               |      | 70-130              | 0   |      | 20            |
| Ethylbenzene                                                                                            | 110              |      | 120               |      | 70-130              | 9   |      | 20            |
| p/m-Xylene                                                                                              | 115              |      | 120               |      | 70-130              | 4   |      | 20            |
| o-Xylene                                                                                                | 115              |      | 120               |      | 70-130              | 4   |      | 20            |
| Naphthalene                                                                                             | 86               |      | 88                |      | 70-130              | 2   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 95               |      | 100               |      | 70-130                 |
| Toluene-d8            | 99               |      | 100               |      | 70-130                 |
| 4-Bromofluorobenzene  | 92               |      | 90                |      | 70-130                 |
| Dibromofluoromethane  | 103              |      | 106               |      | 70-130                 |

**Project Name:** COA GW Q3 2024  
**Project Number:** 21010210

Serial\_No:08272410:38  
**Lab Number:** L2447404  
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**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

|               |                     |
|---------------|---------------------|
| <b>Cooler</b> | <b>Custody Seal</b> |
| A             | Absent              |

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial pH</b> | <b>Final pH</b> | <b>Temp deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-------------------|-----------------|-------------------|-------------|-------------|-------------------------|--------------------|
| L2447404-01A        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2447404-01B        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2447404-01C        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2447404-02A        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2447404-02B        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2447404-02C        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2447404-03A        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2447404-03B        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2447404-03C        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2447404-04A        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2447404-04B        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2447404-04C        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2447404-05A        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2447404-05B        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2447404-05C        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |
| L2447404-05D        | Vial HCl preserved    | A             | NA                |                 | 4.7               | Y           | Absent      |                         | PA-8260(14)        |

**Project Name:** COA GW Q3 2024  
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**Lab Number:** L2447404  
**Report Date:** 08/27/24

## GLOSSARY

### Acronyms

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DL       | - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                |
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                                                                                         |
| EMPC     | - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.                                                                                                                                                                                                                               |
| EPA      | - Environmental Protection Agency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                          |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                         |
| LOD      | - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                                                               |
| LOQ      | - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)<br><br>Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                          |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.                                                                                                                                                                                                    |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NA       | - Not Applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.                                                                                                                                                                                                                                                                                                                                                                           |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NI       | - Not Ignitable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NR       | - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.                                                                                                                                                                                                                                                                                                                                                                    |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                                                                                                                                   |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.                                                                  |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.                                                                                                                                                                                                                                                                                                                                                                     |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TEF      | - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.                                                                                                                                                                                                                                                                                                                                                                                             |
| TEQ      | - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.                                                                                                                                                                                                                                                                                                                                                        |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.                                                                                                                                                                                                                                                                      |

Report Format: DU Report with 'J' Qualifiers



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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). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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 Q3 2024  
**Project Number:** 21010210

**Lab Number:** L2447404  
**Report Date:** 08/27/24

## 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.



**Alpha Analytical, Inc.**Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 21

Published Date: 04/17/2024

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**Certification Information**

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

**Westborough Facility****EPA 624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625.1:** alpha-Terpineol**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility****SM 2540D:** TSS.**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.

**Nonpotable Water:** **EPA RSK-175 Dissolved Gases****Biological Tissue Matrix:** EPA 3050B

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

**Westborough Facility:****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, 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.



Chinaback 8/2/24 0330  8/4/24 330





## ANALYTICAL REPORT

|                 |                                                                             |
|-----------------|-----------------------------------------------------------------------------|
| Lab Number:     | L2467930                                                                    |
| Client:         | Tradepoint Atlantic<br>1600 Sparrows Point Boulevard<br>Baltimore, MD 21219 |
| ATTN:           | Robert Tworkowski                                                           |
| Phone:          | (443) 649-5073                                                              |
| Project Name:   | COA                                                                         |
| Project Number: | 21010210                                                                    |
| Report Date:    | 11/26/24                                                                    |

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

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



**Project Name:** COA  
**Project Number:** 21010210

**Lab Number:** L2467930  
**Report Date:** 11/26/24

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L2467930-01                | CO24-PZM007      | WATER         | Not Specified              | 11/19/24 10:25                  | 11/19/24            |
| L2467930-02                | CO23-PZM008      | WATER         | Not Specified              | 11/19/24 11:00                  | 11/19/24            |
| L2467930-03                | CO59-PZP002      | WATER         | Not Specified              | 11/19/24 11:55                  | 11/19/24            |
| L2467930-04                | CO206R-MWS       | WATER         | Not Specified              | 11/19/24 13:25                  | 11/19/24            |
| L2467930-05                | CO25-PZM008      | WATER         | Not Specified              | 11/19/24 14:00                  | 11/19/24            |
| L2467930-06                | CO57-PZP002      | WATER         | Not Specified              | 11/19/24 14:05                  | 11/19/24            |
| L2467930-07                | TB-001-WT        | WATER         | Not Specified              | 11/19/24 00:00                  | 11/19/24            |

**Project Name:** COA  
**Project Number:** 21010210

**Lab Number:** L2467930  
**Report Date:** 11/26/24

### 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 and solids are reported on a dry weight basis unless otherwise noted. Tissues are reported "as received" or on a wet 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.

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**Project Name:** COA  
**Project Number:** 21010210

**Lab Number:** L2467930  
**Report Date:** 11/26/24

**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: 11/26/24

# ORGANICS

# VOLATILES

**Project Name:** COA  
**Project Number:** 21010210

**Lab Number:** L2467930  
**Report Date:** 11/26/24

**SAMPLE RESULTS**

Lab ID: L2467930-01 D  
 Client ID: CO24-PZM007  
 Sample Location: Not Specified

Date Collected: 11/19/24 10:25  
 Date Received: 11/19/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 11/23/24 11:15  
 Analyst: PID

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 3.8    | J         | ug/l  | 5.0 | 1.6 | 10              |
| Toluene                                      | 2.0    | J         | ug/l  | 7.5 | 2.0 | 10              |
| Ethylbenzene                                 | 2.9    | J         | ug/l  | 5.0 | 1.7 | 10              |
| p/m-Xylene                                   | ND     |           | ug/l  | 10  | 3.3 | 10              |
| o-Xylene                                     | ND     |           | ug/l  | 10  | 3.9 | 10              |
| Xylenes, Total                               | ND     |           | ug/l  | 10  | 3.3 | 10              |
| Naphthalene                                  | 1800   |           | ug/l  | 10  | 2.2 | 10              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 98         |           | 70-130              |
| Toluene-d8            | 101        |           | 70-130              |
| 4-Bromofluorobenzene  | 94         |           | 70-130              |
| Dibromofluoromethane  | 106        |           | 70-130              |

**Project Name:** COA  
**Project Number:** 21010210

**Lab Number:** L2467930  
**Report Date:** 11/26/24

**SAMPLE RESULTS**

Lab ID: L2467930-02 D  
 Client ID: CO23-PZM008  
 Sample Location: Not Specified

Date Collected: 11/19/24 11:00  
 Date Received: 11/19/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 11/23/24 11:41  
 Analyst: PID

| Parameter                                    | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |    |     |                 |
| Benzene                                      | 380    |           | ug/l  | 12 | 4.0 | 25              |
| Toluene                                      | 210    |           | ug/l  | 19 | 5.1 | 25              |
| Ethylbenzene                                 | 21     |           | ug/l  | 12 | 4.2 | 25              |
| p/m-Xylene                                   | 250    |           | ug/l  | 25 | 8.3 | 25              |
| o-Xylene                                     | 100    |           | ug/l  | 25 | 9.8 | 25              |
| Xylenes, Total                               | 350    |           | ug/l  | 25 | 8.3 | 25              |
| Naphthalene                                  | 3200   |           | ug/l  | 25 | 5.4 | 25              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 95         |           | 70-130              |
| Toluene-d8            | 100        |           | 70-130              |
| 4-Bromofluorobenzene  | 94         |           | 70-130              |
| Dibromofluoromethane  | 105        |           | 70-130              |



**Project Name:** COA  
**Project Number:** 21010210

**Lab Number:** L2467930  
**Report Date:** 11/26/24

**SAMPLE RESULTS**

**Lab ID:** L2467930-03  
**Client ID:** CO59-PZP002  
**Sample Location:** Not Specified

**Date Collected:** 11/19/24 11:55  
**Date Received:** 11/19/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 11/24/24 15:01  
**Analyst:** MJV

| Parameter                                    | Result | Qualifier | Units | RL   | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |      |                 |
| Benzene                                      | 14     |           | ug/l  | 0.50 | 0.16 | 1               |
| Toluene                                      | 2.8    |           | ug/l  | 0.75 | 0.20 | 1               |
| Ethylbenzene                                 | 1.0    |           | ug/l  | 0.50 | 0.17 | 1               |
| p/m-Xylene                                   | 10     |           | ug/l  | 1.0  | 0.33 | 1               |
| o-Xylene                                     | 4.8    |           | ug/l  | 1.0  | 0.39 | 1               |
| Xylenes, Total                               | 15     |           | ug/l  | 1.0  | 0.33 | 1               |
| Naphthalene                                  | 77     |           | ug/l  | 1.0  | 0.22 | 1               |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 108        |           | 70-130              |
| Toluene-d8            | 103        |           | 70-130              |
| 4-Bromofluorobenzene  | 101        |           | 70-130              |
| Dibromofluoromethane  | 102        |           | 70-130              |

**Project Name:** COA  
**Project Number:** 21010210

**Lab Number:** L2467930  
**Report Date:** 11/26/24

**SAMPLE RESULTS**

Lab ID: L2467930-04 D  
 Client ID: CO206R-MWS  
 Sample Location: Not Specified

Date Collected: 11/19/24 13:25  
 Date Received: 11/19/24  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 11/23/24 12:32  
 Analyst: PID

| Parameter                                    | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |    |     |                 |
| Benzene                                      | 260    |           | ug/l  | 10 | 3.2 | 20              |
| Toluene                                      | 120    |           | ug/l  | 15 | 4.1 | 20              |
| Ethylbenzene                                 | 8.2    | J         | ug/l  | 10 | 3.3 | 20              |
| p/m-Xylene                                   | 120    |           | ug/l  | 20 | 6.6 | 20              |
| o-Xylene                                     | 48     |           | ug/l  | 20 | 7.8 | 20              |
| Xylenes, Total                               | 170    |           | ug/l  | 20 | 6.6 | 20              |
| Naphthalene                                  | 1800   |           | ug/l  | 20 | 4.3 | 20              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 95         |           | 70-130              |
| Toluene-d8            | 102        |           | 70-130              |
| 4-Bromofluorobenzene  | 93         |           | 70-130              |
| Dibromofluoromethane  | 104        |           | 70-130              |

**Project Name:** COA  
**Project Number:** 21010210

**Lab Number:** L2467930  
**Report Date:** 11/26/24

**SAMPLE RESULTS**

Lab ID: L2467930-05 D  
 Client ID: CO25-PZM008  
 Sample Location: Not Specified

Date Collected: 11/19/24 14:00  
 Date Received: 11/19/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 11/23/24 12:57  
 Analyst: PID

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 980    |           | ug/l  | 50  | 16. | 100             |
| Toluene                                      | 940    |           | ug/l  | 75  | 20. | 100             |
| Ethylbenzene                                 | 32     | J         | ug/l  | 50  | 17. | 100             |
| p/m-Xylene                                   | 600    |           | ug/l  | 100 | 33. | 100             |
| o-Xylene                                     | 210    |           | ug/l  | 100 | 39. | 100             |
| Xylenes, Total                               | 810    |           | ug/l  | 100 | 33. | 100             |
| Naphthalene                                  | 15000  |           | ug/l  | 100 | 22. | 100             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 94         |           | 70-130              |
| Toluene-d8            | 101        |           | 70-130              |
| 4-Bromofluorobenzene  | 94         |           | 70-130              |
| Dibromofluoromethane  | 102        |           | 70-130              |

**Project Name:** COA  
**Project Number:** 21010210

**Lab Number:** L2467930  
**Report Date:** 11/26/24

**SAMPLE RESULTS**

**Lab ID:** L2467930-06  
**Client ID:** CO57-PZP002  
**Sample Location:** Not Specified

**Date Collected:** 11/19/24 14:05  
**Date Received:** 11/19/24  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 11/25/24 16:45  
**Analyst:** MJV

| Parameter                                    | Result | Qualifier | Units | RL   | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |      |                 |
| Benzene                                      | 1.8    |           | ug/l  | 0.50 | 0.16 | 1               |
| Toluene                                      | 1.5    |           | ug/l  | 0.75 | 0.20 | 1               |
| Ethylbenzene                                 | ND     |           | ug/l  | 0.50 | 0.17 | 1               |
| p/m-Xylene                                   | 0.42   | J         | ug/l  | 1.0  | 0.33 | 1               |
| o-Xylene                                     | ND     |           | ug/l  | 1.0  | 0.39 | 1               |
| Xylenes, Total                               | 0.42   | J         | ug/l  | 1.0  | 0.33 | 1               |
| Naphthalene                                  | 0.64   | J         | ug/l  | 1.0  | 0.22 | 1               |

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

**Project Name:** COA  
**Project Number:** 21010210

**Lab Number:** L2467930  
**Report Date:** 11/26/24

**SAMPLE RESULTS**

**Lab ID:** L2467930-07  
**Client ID:** TB-001-WT  
**Sample Location:** Not Specified

**Date Collected:** 11/19/24 00:00  
**Date Received:** 11/19/24  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 11/24/24 14:36  
**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            | 105        |           | 70-130              |
| 4-Bromofluorobenzene  | 104        |           | 70-130              |
| Dibromofluoromethane  | 99         |           | 70-130              |

**Project Name:** COA  
**Project Number:** 21010210

**Lab Number:** L2467930  
**Report Date:** 11/26/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 11/23/24 08:16  
**Analyst:** MJV

| Parameter                                                                                  | Result | Qualifier | Units | RL   | MDL  |
|--------------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02,04-05 Batch: WG2001578-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 96        |           | 70-130                 |
| Toluene-d8            | 100       |           | 70-130                 |
| 4-Bromofluorobenzene  | 97        |           | 70-130                 |
| Dibromofluoromethane  | 107       |           | 70-130                 |

**Project Name:** COA  
**Project Number:** 21010210

**Lab Number:** L2467930  
**Report Date:** 11/26/24

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260D  
 Analytical Date: 11/24/24 12:10  
 Analyst: PID

| Parameter                                                                            | Result | Qualifier | Units | RL   | MDL  |
|--------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 03,07 Batch: WG2002095-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 108       |           | 70-130                 |
| Toluene-d8            | 105       |           | 70-130                 |
| 4-Bromofluorobenzene  | 104       |           | 70-130                 |
| Dibromofluoromethane  | 100       |           | 70-130                 |

**Project Name:** COA  
**Project Number:** 21010210

**Lab Number:** L2467930  
**Report Date:** 11/26/24

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260D  
 Analytical Date: 11/25/24 10:13  
 Analyst: PID

| Parameter                                                                         | Result | Qualifier | Units | RL   | MDL  |
|-----------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 06 Batch: WG2002409-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 110       |           | 70-130                 |
| Toluene-d8            | 104       |           | 70-130                 |
| 4-Bromofluorobenzene  | 106       |           | 70-130                 |
| Dibromofluoromethane  | 104       |           | 70-130                 |



# **Lab Control Sample Analysis** Batch Quality Control

**Project Name:** COA  
**Project Number:** 21010210

**Lab Number:** L2467930  
**Report Date:** 11/26/24

| Parameter                                                                                                     | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---------------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02,04-05 Batch: WG2001578-3 WG2001578-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                       | 92               |      | 92                |      | 70-130              | 0   |      | 20            |
| Toluene                                                                                                       | 97               |      | 93                |      | 70-130              | 4   |      | 20            |
| Ethylbenzene                                                                                                  | 93               |      | 92                |      | 70-130              | 1   |      | 20            |
| p/m-Xylene                                                                                                    | 90               |      | 90                |      | 70-130              | 0   |      | 20            |
| o-Xylene                                                                                                      | 90               |      | 90                |      | 70-130              | 0   |      | 20            |
| Naphthalene                                                                                                   | 90               |      | 90                |      | 70-130              | 0   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 98               |      | 97                |      | 70-130                 |
| Toluene-d8            | 104              |      | 100               |      | 70-130                 |
| 4-Bromofluorobenzene  | 97               |      | 95                |      | 70-130                 |
| Dibromofluoromethane  | 104              |      | 103               |      | 70-130                 |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** COA  
**Project Number:** 21010210

**Lab Number:** L2467930  
**Report Date:** 11/26/24

| Parameter                                                                                               | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03,07 Batch: WG2002095-3 WG2002095-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                 | 100              |      | 100               |      | 70-130              | 0   |      | 20            |
| Toluene                                                                                                 | 100              |      | 100               |      | 70-130              | 0   |      | 20            |
| Ethylbenzene                                                                                            | 99               |      | 100               |      | 70-130              | 1   |      | 20            |
| p/m-Xylene                                                                                              | 100              |      | 100               |      | 70-130              | 0   |      | 20            |
| o-Xylene                                                                                                | 95               |      | 100               |      | 70-130              | 5   |      | 20            |
| Naphthalene                                                                                             | 90               |      | 92                |      | 70-130              | 2   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 105              |      | 107               |      | 70-130                 |
| Toluene-d8            | 102              |      | 104               |      | 70-130                 |
| 4-Bromofluorobenzene  | 105              |      | 104               |      | 70-130                 |
| Dibromofluoromethane  | 99               |      | 101               |      | 70-130                 |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** COA  
**Project Number:** 21010210

**Lab Number:** L2467930  
**Report Date:** 11/26/24

| Parameter                                                                                            | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 06 Batch: WG2002409-3 WG2002409-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                              | 110              |      | 98                |      | 70-130              | 12  |      | 20            |
| Toluene                                                                                              | 110              |      | 99                |      | 70-130              | 11  |      | 20            |
| Ethylbenzene                                                                                         | 110              |      | 97                |      | 70-130              | 13  |      | 20            |
| p/m-Xylene                                                                                           | 110              |      | 95                |      | 70-130              | 15  |      | 20            |
| o-Xylene                                                                                             | 110              |      | 95                |      | 70-130              | 15  |      | 20            |
| Naphthalene                                                                                          | 90               |      | 85                |      | 70-130              | 6   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 109              |      | 107               |      | 70-130                 |
| Toluene-d8            | 106              |      | 105               |      | 70-130                 |
| 4-Bromofluorobenzene  | 105              |      | 105               |      | 70-130                 |
| Dibromofluoromethane  | 104              |      | 102               |      | 70-130                 |

**Project Name:** COA**Lab Number:** L2467930**Project Number:** 21010210**Report Date:** 11/26/24**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

|               |                     |
|---------------|---------------------|
| <b>Cooler</b> | <b>Custody Seal</b> |
| A             | Absent              |

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial pH</b> | <b>Final pH</b> | <b>Temp deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-------------------|-----------------|-------------------|-------------|-------------|-------------------------|--------------------|
| L2467930-01A        | Vial HCl preserved    | A             | NA                |                 | 2.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2467930-01B        | Vial HCl preserved    | A             | NA                |                 | 2.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2467930-01C        | Vial HCl preserved    | A             | NA                |                 | 2.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2467930-02A        | Vial HCl preserved    | A             | NA                |                 | 2.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2467930-02B        | Vial HCl preserved    | A             | NA                |                 | 2.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2467930-02C        | Vial HCl preserved    | A             | NA                |                 | 2.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2467930-03A        | Vial HCl preserved    | A             | NA                |                 | 2.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2467930-03B        | Vial HCl preserved    | A             | NA                |                 | 2.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2467930-03C        | Vial HCl preserved    | A             | NA                |                 | 2.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2467930-04A        | Vial HCl preserved    | A             | NA                |                 | 2.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2467930-04B        | Vial HCl preserved    | A             | NA                |                 | 2.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2467930-04C        | Vial HCl preserved    | A             | NA                |                 | 2.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2467930-05A        | Vial HCl preserved    | A             | NA                |                 | 2.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2467930-05B        | Vial HCl preserved    | A             | NA                |                 | 2.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2467930-05C        | Vial HCl preserved    | A             | NA                |                 | 2.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2467930-06A        | Vial HCl preserved    | A             | NA                |                 | 2.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2467930-06B        | Vial HCl preserved    | A             | NA                |                 | 2.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2467930-06C        | Vial HCl preserved    | A             | NA                |                 | 2.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2467930-07A        | Vial HCl preserved    | A             | NA                |                 | 2.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2467930-07A1       | Vial HCl preserved    | A             | NA                |                 | 2.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2467930-07C        | Vial HCl preserved    | A             | NA                |                 | 2.1               | Y           | Absent      |                         | PA-8260(14)        |
| L2467930-07C1       | Vial HCl preserved    | A             | NA                |                 | 2.1               | Y           | Absent      |                         | PA-8260(14)        |

**Project Name:** COA  
**Project Number:** 21010210

**Lab Number:** L2467930  
**Report Date:** 11/26/24

## 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  
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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  
**Project Number:** 21010210

**Lab Number:** L2467930  
**Report Date:** 11/26/24

#### Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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  
**Project Number:** 21010210

**Lab Number:** L2467930  
**Report Date:** 11/26/24

## 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 624.1:** m/p-xylene, o-xylene, Naphthalene

**EPA 625.1:** alpha-Terpineol

**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270E:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine, 2,6-Dichlorophenol.

**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

**Mansfield Facility**

**SM 2540D:** TSS.

**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.

**Nonpotable Water:** **EPA RSK-175 Dissolved Gases**

**Biological Tissue Matrix:** EPA 3050B

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

**Westborough Facility:**

**Drinking Water**

**EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

**EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**

**EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

**Non-Potable Water**

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

**SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.

**EPA 624.1:** Volatile Halocarbons & Aromatics,

**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, 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.

**L2467930** **26NOV24**  
**TRADEPOINT**



**ALPHA ANALYTICAL**  
 WESTBORO, MA  
 TEL: 508-898-9220  
 FAX: 508-898-9193

# CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 11/20/24

**Client Information**

Client: TradePoint Atlantic

Address: 6995 Sparrows Point Rd  
Bld Sparrows Point, MD

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

Email: JBurns@armstrong.com  
ksquire@armstrong.com

☐ These samples have been previously analyzed by Alpha

**Project Information**

Project Name: COA

Project Location: \_\_\_\_\_

Project #: 21010210

Project Manager: Bob T

ALPHA Quote #: \_\_\_\_\_

**Turn-Around Time**

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

Date Due: \_\_\_\_\_ Time: \_\_\_\_\_

**Report Information - Data Deliverables**

☐ FAX ☐ EMAIL ☐ Same as Client info PO #: \_\_\_\_\_

☐ ADEx ☐ Add'l Deliverables

**Regulatory Requirements/Report Limits**

State /Fed Program: \_\_\_\_\_ Criteria: \_\_\_\_\_

Other Project Specific Requirements/Comments/Detection Limits:

| ALPHA Lab ID<br>(Lab Use Only) | Sample ID   | Collection |      | Sample Matrix | Sampler's Initials | ANALYSIS<br><i>BTEX + Naphthalene</i> |  |  |  |  |  |  |  |  |  | SAMPLE HANDLING |         | TOTAL # BOTTLES |
|--------------------------------|-------------|------------|------|---------------|--------------------|---------------------------------------|--|--|--|--|--|--|--|--|--|-----------------|---------|-----------------|
|                                |             | Date       | Time |               |                    |                                       |  |  |  |  |  |  |  |  |  |                 |         |                 |
| 69930-01                       | CO24-PZM007 | 11/19/24   | 1025 | GW            | AZJ                | x                                     |  |  |  |  |  |  |  |  |  |                 | pH > 10 | 3               |
| -02                            | CO23-PZM008 | 11/19/24   | 1100 | GW            | AZJ                | x                                     |  |  |  |  |  |  |  |  |  |                 | pH > 10 | 3               |
| -03                            | CO59-PZP002 | 11/19/24   | 1155 | GW            | AZJ                | x                                     |  |  |  |  |  |  |  |  |  |                 | pH > 10 | 3               |
| -04                            | CO206R-MWS  | 11/19/24   | 1325 | GW            | AZJ                | x                                     |  |  |  |  |  |  |  |  |  |                 | pH > 10 | 3               |
| -05                            | CO25-PZM008 | 11/19/24   | 1400 | GW            | AZJ                | x                                     |  |  |  |  |  |  |  |  |  |                 | pH > 10 | 3               |
| -06                            | CO57-PZP002 | 11/19/24   | 1405 | GW            | AZJ                | x                                     |  |  |  |  |  |  |  |  |  |                 | pH > 10 | 3               |
| -07                            | TB-001-WF   | -          | -    | -             | -                  | x                                     |  |  |  |  |  |  |  |  |  |                 |         | 4               |
|                                |             |            |      |               |                    |                                       |  |  |  |  |  |  |  |  |  |                 |         |                 |
|                                |             |            |      |               |                    |                                       |  |  |  |  |  |  |  |  |  |                 |         |                 |
|                                |             |            |      |               |                    |                                       |  |  |  |  |  |  |  |  |  |                 |         |                 |
|                                |             |            |      |               |                    |                                       |  |  |  |  |  |  |  |  |  |                 |         |                 |
|                                |             |            |      |               |                    |                                       |  |  |  |  |  |  |  |  |  |                 |         |                 |
|                                |             |            |      |               |                    |                                       |  |  |  |  |  |  |  |  |  |                 |         |                 |
|                                |             |            |      |               |                    |                                       |  |  |  |  |  |  |  |  |  |                 |         |                 |
|                                |             |            |      |               |                    |                                       |  |  |  |  |  |  |  |  |  |                 |         |                 |

Relinquished By: Anthony Green

Date/Time: 11/19/24 1452

Received By: Anthony Green

Date/Time: 11/19/24 1452

Container Type: V

Preservative: A

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

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## ANALYTICAL REPORT

|                 |                                                                             |
|-----------------|-----------------------------------------------------------------------------|
| Lab Number:     | L2473275                                                                    |
| Client:         | Tradepoint Atlantic<br>1600 Sparrows Point Boulevard<br>Baltimore, MD 21219 |
| ATTN:           | Matthew Newman                                                              |
| Phone:          | (443) 649-5073                                                              |
| Project Name:   | COA Q4 GW                                                                   |
| Project Number: | 21010210                                                                    |
| Report Date:    | 12/19/24                                                                    |

The original project report/data package is held by Pace Analytical Services. This report/data package is paginated and should be reproduced only in its entirety. Pace Analytical Services 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-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

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



**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473275  
**Report Date:** 12/19/24

| <b>Lab<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|--------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L2473275-01              | CO194-MW8        | WATER         | Not Specified              | 12/12/24 11:45                  | 12/12/24            |
| L2473275-02              | TB-001-WT        | WATER         | Not Specified              | 12/12/24 00:00                  | 12/12/24            |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473275  
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### 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 Pace 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 and solids are reported on a dry weight basis unless otherwise noted. Tissues are reported "as received" or on a wet 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, Pace'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 Pace Project Manager and made arrangements for Pace 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 Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473275  
**Report Date:** 12/19/24

**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: 12/19/24

# ORGANICS

# VOLATILES



**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473275  
**Report Date:** 12/19/24

**SAMPLE RESULTS**

Lab ID: L2473275-01 D  
 Client ID: CO194-MW8  
 Sample Location: Not Specified

Date Collected: 12/12/24 11:45  
 Date Received: 12/12/24  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 12/19/24 01:10  
 Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 370    |           | ug/l  | 5.0 | 1.6 | 10              |
| Toluene                                      | 75     |           | ug/l  | 7.5 | 2.0 | 10              |
| Ethylbenzene                                 | 3.0    | J         | ug/l  | 5.0 | 1.7 | 10              |
| p/m-Xylene                                   | 26     |           | ug/l  | 10  | 3.3 | 10              |
| o-Xylene                                     | 13     |           | ug/l  | 10  | 3.9 | 10              |
| Xylenes, Total                               | 39     |           | ug/l  | 10  | 3.3 | 10              |
| Naphthalene                                  | 1400   |           | ug/l  | 10  | 2.2 | 10              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 90         |           | 70-130              |
| Toluene-d8            | 94         |           | 70-130              |
| 4-Bromofluorobenzene  | 90         |           | 70-130              |
| Dibromofluoromethane  | 109        |           | 70-130              |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473275  
**Report Date:** 12/19/24

**SAMPLE RESULTS**

Lab ID: L2473275-02  
 Client ID: TB-001-WT  
 Sample Location: Not Specified

Date Collected: 12/12/24 00:00  
 Date Received: 12/12/24  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 12/19/24 01:32  
 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                                  | 0.92   | J         | ug/l  | 1.0  | 0.22 | 1               |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 103        |           | 70-130              |
| Toluene-d8            | 92         |           | 70-130              |
| 4-Bromofluorobenzene  | 95         |           | 70-130              |
| Dibromofluoromethane  | 121        |           | 70-130              |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473275  
**Report Date:** 12/19/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 12/18/24 19:22  
**Analyst:** LAC

| Parameter                                                                            | Result | Qualifier | Units | RL   | MDL  |
|--------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG2011331-5 |        |           |       |      |      |
| 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            | 95        |           | 70-130              |
| 4-Bromofluorobenzene  | 102       |           | 70-130              |
| Dibromofluoromethane  | 120       |           | 70-130              |

# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** COA Q4 GW

**Project Number:** 21010210

**Lab Number:** L2473275

**Report Date:** 12/19/24

| Parameter                                                                                               | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG2011331-3 WG2011331-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                 | 94               |      | 86                |      | 70-130              | 9   |      | 20            |
| Toluene                                                                                                 | 98               |      | 89                |      | 70-130              | 10  |      | 20            |
| Ethylbenzene                                                                                            | 99               |      | 91                |      | 70-130              | 8   |      | 20            |
| p/m-Xylene                                                                                              | 100              |      | 90                |      | 70-130              | 11  |      | 20            |
| o-Xylene                                                                                                | 100              |      | 90                |      | 70-130              | 11  |      | 20            |
| Naphthalene                                                                                             | 91               |      | 88                |      | 70-130              | 3   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 104              |      | 109               |      | 70-130                 |
| Toluene-d8            | 102              |      | 101               |      | 70-130                 |
| 4-Bromofluorobenzene  | 100              |      | 100               |      | 70-130                 |
| Dibromofluoromethane  | 104              |      | 107               |      | 70-130                 |

**Project Name:** COA Q4 GW**Lab Number:** L2473275**Project Number:** 21010210**Report Date:** 12/19/24**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

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

A                                  Absent

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|--------------------|
| L2473275-01A        | Vial HCl preserved    | A             | NA                    |                     | 3.4                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473275-01B        | Vial HCl preserved    | A             | NA                    |                     | 3.4                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473275-01C        | Vial HCl preserved    | A             | NA                    |                     | 3.4                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473275-02A        | Vial HCl preserved    | A             | NA                    |                     | 3.4                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473275-02B        | Vial HCl preserved    | A             | NA                    |                     | 3.4                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473275-02C        | Vial HCl preserved    | A             | NA                    |                     | 3.4                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473275-02D        | Vial HCl preserved    | A             | NA                    |                     | 3.4                   | Y           | Absent      |                             | PA-8260(14)        |

**Project Name:** COA Q4 GW**Lab Number:** L2473275**Project Number:** 21010210**Report Date:** 12/19/24

## GLOSSARY

### Acronyms

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DL       | - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                |
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                                                                                         |
| EMPC     | - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.                                                                                                                                                                                                                               |
| EPA      | - Environmental Protection Agency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                          |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                         |
| LOD      | - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                                                               |
| LOQ      | - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)<br><br>Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                          |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.                                                                                                                                                                                                    |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NA       | - Not Applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.                                                                                                                                                                                                                                                                                                                                                                           |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NI       | - Not Ignitable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NR       | - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.                                                                                                                                                                                                                                                                                                                                                                    |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                                                                                                                                   |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.                                                                  |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.                                                                                                                                                                                                                                                                                                                                                                     |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TEF      | - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.                                                                                                                                                                                                                                                                                                                                                                                             |
| TEQ      | - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.                                                                                                                                                                                                                                                                                                                                                        |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.                                                                                                                                                                                                                                                                      |

*Report Format: DU Report with 'J' Qualifiers*

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473275  
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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 Q4 GW  
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#### Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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 Q4 GW**Lab Number:** L2473275**Project Number:** 21010210**Report Date:** 12/19/24

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

## LIMITATION OF LIABILITIES

Pace Analytical Services 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 Pace Analytical Services shall be to re-perform the work at it's own expense. In no event shall Pace Analytical Services 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 Pace Analytical Services.

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.



**Pace Analytical Services LLC**

ID No.:17873

Facility: **Northeast**

Revision 23

Department: **Quality Assurance**

Published Date: 12/09/2024

Title: **Certificate/Approval Program Summary**

Page 1 of 1

**Certification Information**

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

**Westborough Facility – 8 Walkup Dr. Westborough, MA 01581****EPA 624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625.1:** alpha-Terpineol**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048****SM 2540D:** TSS.**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.

**Nonpotable Water:** **EPA RSK-175 Dissolved Gases****Biological Tissue Matrix:** EPA 3050B**Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048****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.

**Nonpotable Water:** **EPA RSK-175 Dissolved Gases**

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

**Westborough Facility – 8 Walkup Dr. Westborough, MA 01581****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.****Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048****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 Project Manager.





## ANALYTICAL REPORT

|                 |                                                                             |
|-----------------|-----------------------------------------------------------------------------|
| Lab Number:     | L2473560                                                                    |
| Client:         | Tradepoint Atlantic<br>1600 Sparrows Point Boulevard<br>Baltimore, MD 21219 |
| ATTN:           | Matthew Newman                                                              |
| Phone:          | (443) 649-5073                                                              |
| Project Name:   | COA Q4 GW                                                                   |
| Project Number: | 21010210                                                                    |
| Report Date:    | 12/20/24                                                                    |

The original project report/data package is held by Pace Analytical Services. This report/data package is paginated and should be reproduced only in its entirety. Pace Analytical Services 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-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

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



**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473560  
**Report Date:** 12/20/24

| <b>Lab<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|--------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L2473560-01              | CO198-MWS        | WATER         | Not Specified              | 12/13/24 10:15                  | 12/13/24            |
| L2473560-02              | CO201-MWS        | WATER         | Not Specified              | 12/13/24 11:20                  | 12/13/24            |
| L2473560-03              | CO196-MWS        | WATER         | Not Specified              | 12/13/24 12:00                  | 12/13/24            |
| L2473560-04              | TB-001-WT        | WATER         | Not Specified              | 12/13/24 00:00                  | 12/13/24            |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473560  
**Report Date:** 12/20/24

### 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 Pace 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 and solids are reported on a dry weight basis unless otherwise noted. Tissues are reported "as received" or on a wet 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, Pace'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 Pace Project Manager and made arrangements for Pace 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.

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**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473560  
**Report Date:** 12/20/24

**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: 12/20/24

# ORGANICS



# VOLATILES

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473560  
**Report Date:** 12/20/24

**SAMPLE RESULTS**

Lab ID: L2473560-01 D  
 Client ID: CO198-MWS  
 Sample Location: Not Specified

Date Collected: 12/13/24 10:15  
 Date Received: 12/13/24  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 12/16/24 14:36  
 Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 230    |           | ug/l  | 5.0 | 1.6 | 10              |
| Toluene                                      | 55     |           | ug/l  | 7.5 | 2.0 | 10              |
| Ethylbenzene                                 | 1.8    | J         | ug/l  | 5.0 | 1.7 | 10              |
| p/m-Xylene                                   | 18     |           | ug/l  | 10  | 3.3 | 10              |
| o-Xylene                                     | 7.9    | J         | ug/l  | 10  | 3.9 | 10              |
| Xylenes, Total                               | 26     | J         | ug/l  | 10  | 3.3 | 10              |
| Naphthalene                                  | 1600   |           | ug/l  | 10  | 2.2 | 10              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 106        |           | 70-130              |
| Toluene-d8            | 94         |           | 70-130              |
| 4-Bromofluorobenzene  | 91         |           | 70-130              |
| Dibromofluoromethane  | 116        |           | 70-130              |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473560  
**Report Date:** 12/20/24

**SAMPLE RESULTS**

Lab ID: L2473560-02 D  
 Client ID: CO201-MWS  
 Sample Location: Not Specified

Date Collected: 12/13/24 11:20  
 Date Received: 12/13/24  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 12/16/24 14:14  
 Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL  | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |      |                 |
| Benzene                                      | 600    |           | ug/l  | 2.5 | 0.80 | 5               |
| Toluene                                      | 27     |           | ug/l  | 3.8 | 1.0  | 5               |
| Ethylbenzene                                 | 1.1    | J         | ug/l  | 2.5 | 0.84 | 5               |
| p/m-Xylene                                   | 9.4    |           | ug/l  | 5.0 | 1.7  | 5               |
| o-Xylene                                     | 4.7    | J         | ug/l  | 5.0 | 2.0  | 5               |
| Xylenes, Total                               | 14     | J         | ug/l  | 5.0 | 1.7  | 5               |
| Naphthalene                                  | 74     |           | ug/l  | 5.0 | 1.1  | 5               |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 98         |           | 70-130              |
| Toluene-d8            | 95         |           | 70-130              |
| 4-Bromofluorobenzene  | 97         |           | 70-130              |
| Dibromofluoromethane  | 107        |           | 70-130              |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473560  
**Report Date:** 12/20/24

**SAMPLE RESULTS**

Lab ID: L2473560-03 D  
 Client ID: CO196-MWS  
 Sample Location: Not Specified

Date Collected: 12/13/24 12:00  
 Date Received: 12/13/24  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 12/16/24 13:52  
 Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |    |     |                 |
| Benzene                                      | 3200   |           | ug/l  | 20 | 6.4 | 40              |
| Toluene                                      | 220    |           | ug/l  | 30 | 8.1 | 40              |
| Ethylbenzene                                 | 7.6    | J         | ug/l  | 20 | 6.7 | 40              |
| p/m-Xylene                                   | 58     |           | ug/l  | 40 | 13. | 40              |
| o-Xylene                                     | 24     | J         | ug/l  | 40 | 16. | 40              |
| Xylenes, Total                               | 82     | J         | ug/l  | 40 | 13. | 40              |
| Naphthalene                                  | 330    |           | ug/l  | 40 | 8.6 | 40              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 99         |           | 70-130              |
| Toluene-d8            | 95         |           | 70-130              |
| 4-Bromofluorobenzene  | 97         |           | 70-130              |
| Dibromofluoromethane  | 109        |           | 70-130              |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473560  
**Report Date:** 12/20/24

**SAMPLE RESULTS**

**Lab ID:** L2473560-04  
**Client ID:** TB-001-WT  
**Sample Location:** Not Specified

**Date Collected:** 12/13/24 00:00  
**Date Received:** 12/13/24  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 12/14/24 16:16  
**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 | 109        |           | 70-130              |
| Toluene-d8            | 93         |           | 70-130              |
| 4-Bromofluorobenzene  | 99         |           | 70-130              |
| Dibromofluoromethane  | 125        |           | 70-130              |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473560  
**Report Date:** 12/20/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 12/14/24 13:45  
**Analyst:** PID

| Parameter                                                                         | Result | Qualifier | Units | RL   | MDL  |
|-----------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 04 Batch: WG2009753-5 |        |           |       |      |      |
| 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            | 93        |           | 70-130              |
| 4-Bromofluorobenzene  | 98        |           | 70-130              |
| Dibromofluoromethane  | 120       |           | 70-130              |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473560  
**Report Date:** 12/20/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 12/16/24 10:37  
**Analyst:** MJV

| Parameter                                                                            | Result | Qualifier | Units | RL   | MDL  |
|--------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG2010273-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 102       |           | 70-130                 |
| Toluene-d8            | 95        |           | 70-130                 |
| 4-Bromofluorobenzene  | 101       |           | 70-130                 |
| Dibromofluoromethane  | 119       |           | 70-130                 |

# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** COA Q4 GW

**Project Number:** 21010210

**Lab Number:** L2473560

**Report Date:** 12/20/24

| <b>Parameter</b>                                                                                     | <b>LCS<br/>%Recovery</b> | <b>Qual</b> | <b>LCSD<br/>%Recovery</b> | <b>Qual</b> | <b>%Recovery<br/>Limits</b> | <b>RPD</b> | <b>Qual</b> | <b>RPD<br/>Limits</b> |
|------------------------------------------------------------------------------------------------------|--------------------------|-------------|---------------------------|-------------|-----------------------------|------------|-------------|-----------------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04 Batch: WG2009753-3 WG2009753-4 |                          |             |                           |             |                             |            |             |                       |
| Benzene                                                                                              | 94                       |             | 79                        |             | 70-130                      | 17         |             | 20                    |
| Toluene                                                                                              | 100                      |             | 83                        |             | 70-130                      | 19         |             | 20                    |
| Ethylbenzene                                                                                         | 100                      |             | 84                        |             | 70-130                      | 17         |             | 20                    |
| p/m-Xylene                                                                                           | 110                      |             | 90                        |             | 70-130                      | 20         |             | 20                    |
| o-Xylene                                                                                             | 105                      |             | 90                        |             | 70-130                      | 15         |             | 20                    |
| Naphthalene                                                                                          | 82                       |             | 71                        |             | 70-130                      | 14         |             | 20                    |

| <b>Surrogate</b>      | <b>LCS<br/>%Recovery</b> | <b>Qual</b> | <b>LCSD<br/>%Recovery</b> | <b>Qual</b> | <b>Acceptance<br/>Criteria</b> |
|-----------------------|--------------------------|-------------|---------------------------|-------------|--------------------------------|
| 1,2-Dichloroethane-d4 | 102                      |             | 96                        |             | 70-130                         |
| Toluene-d8            | 101                      |             | 99                        |             | 70-130                         |
| 4-Bromofluorobenzene  | 91                       |             | 94                        |             | 70-130                         |
| Dibromofluoromethane  | 113                      |             | 107                       |             | 70-130                         |



# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** COA Q4 GW

**Project Number:** 21010210

**Lab Number:** L2473560

**Report Date:** 12/20/24

| Parameter                                                                                               | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG2010273-3 WG2010273-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                 | 91               |      | 90                |      | 70-130              | 1   |      | 20            |
| Toluene                                                                                                 | 98               |      | 97                |      | 70-130              | 1   |      | 20            |
| Ethylbenzene                                                                                            | 100              |      | 97                |      | 70-130              | 3   |      | 20            |
| p/m-Xylene                                                                                              | 105              |      | 100               |      | 70-130              | 5   |      | 20            |
| o-Xylene                                                                                                | 105              |      | 100               |      | 70-130              | 5   |      | 20            |
| Naphthalene                                                                                             | 79               |      | 84                |      | 70-130              | 6   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 107              |      | 107               |      | 70-130                 |
| Toluene-d8            | 102              |      | 101               |      | 70-130                 |
| 4-Bromofluorobenzene  | 97               |      | 99                |      | 70-130                 |
| Dibromofluoromethane  | 113              |      | 105               |      | 70-130                 |

**Project Name:** COA Q4 GW**Lab Number:** L2473560**Project Number:** 21010210**Report Date:** 12/20/24**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

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

A                                  Absent

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|--------------------|
| L2473560-01A        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473560-01B        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473560-01C        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473560-02A        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473560-02B        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473560-02C        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473560-03A        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473560-03B        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473560-03C        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473560-04A        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473560-04B        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473560-04C        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473560-04D        | Vial HCl preserved    | A             | NA                    |                     | 2.7                   | Y           | Absent      |                             | PA-8260(14)        |

Project Name: COA Q4 GW

Lab Number: L2473560

Project Number: 21010210

Report Date: 12/20/24

## GLOSSARY

### Acronyms

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DL       | - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                |
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                                                                                         |
| EMPC     | - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.                                                                                                                                                                                                                               |
| EPA      | - Environmental Protection Agency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                          |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                         |
| LOD      | - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                                                               |
| LOQ      | - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)<br><br>Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                          |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.                                                                                                                                                                                                    |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NA       | - Not Applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.                                                                                                                                                                                                                                                                                                                                                                           |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NI       | - Not Ignitable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NR       | - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.                                                                                                                                                                                                                                                                                                                                                                    |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                                                                                                                                   |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.                                                                  |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.                                                                                                                                                                                                                                                                                                                                                                     |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TEF      | - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.                                                                                                                                                                                                                                                                                                                                                                                             |
| TEQ      | - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.                                                                                                                                                                                                                                                                                                                                                        |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.                                                                                                                                                                                                                                                                      |

Report Format: DU Report with 'J' Qualifiers



**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473560  
**Report Date:** 12/20/24

## 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 Q4 GW**Lab Number:** L2473560**Project Number:** 21010210**Report Date:** 12/20/24**Data Qualifiers**

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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 Q4 GW**Lab Number:** L2473560**Project Number:** 21010210**Report Date:** 12/20/24

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

## LIMITATION OF LIABILITIES

Pace Analytical Services 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 Pace Analytical Services shall be to re-perform the work at its own expense. In no event shall Pace Analytical Services 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 Pace Analytical Services.

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.



**Pace Analytical Services LLC**

ID No.:17873

Facility: **Northeast**

Revision 23

Department: **Quality Assurance**

Published Date: 12/09/2024

Title: **Certificate/Approval Program Summary**

Page 1 of 1

**Certification Information**

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

**Westborough Facility – 8 Walkup Dr. Westborough, MA 01581****EPA 624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625.1:** alpha-Terpineol**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048****SM 2540D:** TSS.**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.

**Nonpotable Water:** **EPA RSK-175 Dissolved Gases****Biological Tissue Matrix:** EPA 3050B**Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048****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.

**Nonpotable Water:** **EPA RSK-175 Dissolved Gases**

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

**Westborough Facility – 8 Walkup Dr. Westborough, MA 01581****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9223B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.****Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048****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 Project Manager.









## ANALYTICAL REPORT

|                 |                                                                             |
|-----------------|-----------------------------------------------------------------------------|
| Lab Number:     | L2473940                                                                    |
| Client:         | Tradepoint Atlantic<br>1600 Sparrows Point Boulevard<br>Baltimore, MD 21219 |
| ATTN:           | Matthew Newman                                                              |
| Phone:          | (443) 649-5073                                                              |
| Project Name:   | COA Q4 GW                                                                   |
| Project Number: | 21010210                                                                    |
| Report Date:    | 12/23/24                                                                    |

The original project report/data package is held by Pace Analytical Services. This report/data package is paginated and should be reproduced only in its entirety. Pace Analytical Services 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-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

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



**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473940  
**Report Date:** 12/23/24

| <b>Lab<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|--------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L2473940-01              | GD02-MWI         | WATER         | Not Specified              | 12/16/24 13:30                  | 12/16/24            |
| L2473940-02              | CO41-PZM001      | WATER         | Not Specified              | 12/16/24 15:00                  | 12/16/24            |
| L2473940-03              | TB-001-WT        | WATER         | Not Specified              | 12/16/24 00:00                  | 12/16/24            |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473940  
**Report Date:** 12/23/24

### 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 Pace 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 and solids are reported on a dry weight basis unless otherwise noted. Tissues are reported "as received" or on a wet 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, Pace'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 Pace Project Manager and made arrangements for Pace 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.

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**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473940  
**Report Date:** 12/23/24

**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

L2473940-01: The Client ID was specified by the client.

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: 12/23/24

# ORGANICS

# VOLATILES

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473940  
**Report Date:** 12/23/24

**SAMPLE RESULTS**

Lab ID: L2473940-01 D2  
 Client ID: GD02-MWI  
 Sample Location: Not Specified

Date Collected: 12/16/24 13:30  
 Date Received: 12/16/24  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 12/23/24 09:52  
 Analyst: PID

| Parameter                                    | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |     |                 |
| Benzene                                      | 210000 |           | ug/l  | 2500 | 800 | 5000            |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 99         |           | 70-130              |
| Toluene-d8            | 98         |           | 70-130              |
| 4-Bromofluorobenzene  | 94         |           | 70-130              |
| Dibromofluoromethane  | 106        |           | 70-130              |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473940  
**Report Date:** 12/23/24

**SAMPLE RESULTS**

Lab ID: L2473940-01 D  
 Client ID: GD02-MWI  
 Sample Location: Not Specified

Date Collected: 12/16/24 13:30  
 Date Received: 12/16/24  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 12/20/24 20:33  
 Analyst: PID

| Parameter                                    | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |     |                 |
| Benzene                                      | 210000 | E         | ug/l  | 500  | 160 | 1000            |
| Toluene                                      | 3600   |           | ug/l  | 750  | 200 | 1000            |
| Ethylbenzene                                 | 460    | J         | ug/l  | 500  | 170 | 1000            |
| p/m-Xylene                                   | 620    | J         | ug/l  | 1000 | 330 | 1000            |
| o-Xylene                                     | 790    | J         | ug/l  | 1000 | 390 | 1000            |
| Xylenes, Total                               | 1400   | J         | ug/l  | 1000 | 330 | 1000            |
| Naphthalene                                  | 570    | J         | ug/l  | 1000 | 220 | 1000            |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 103        |           | 70-130              |
| Toluene-d8            | 98         |           | 70-130              |
| 4-Bromofluorobenzene  | 92         |           | 70-130              |
| Dibromofluoromethane  | 104        |           | 70-130              |



**Project Name:** COA Q4 GW**Lab Number:** L2473940**Project Number:** 21010210**Report Date:** 12/23/24**SAMPLE RESULTS**

Lab ID: L2473940-02 D

Date Collected: 12/16/24 15:00

Client ID: CO41-PZM001

Date Received: 12/16/24

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 12/20/24 20:59

Analyst: PID

| Parameter                                    | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |     |                 |
| Benzene                                      | 280000 |           | ug/l  | 1200 | 400 | 2500            |
| Toluene                                      | 90000  |           | ug/l  | 1900 | 510 | 2500            |
| Ethylbenzene                                 | 830    | J         | ug/l  | 1200 | 420 | 2500            |
| p/m-Xylene                                   | 13000  |           | ug/l  | 2500 | 830 | 2500            |
| o-Xylene                                     | 3800   |           | ug/l  | 2500 | 980 | 2500            |
| Xylenes, Total                               | 17000  |           | ug/l  | 2500 | 830 | 2500            |
| Naphthalene                                  | ND     |           | ug/l  | 2500 | 540 | 2500            |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 103        |           | 70-130              |
| Toluene-d8            | 98         |           | 70-130              |
| 4-Bromofluorobenzene  | 94         |           | 70-130              |
| Dibromofluoromethane  | 105        |           | 70-130              |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473940  
**Report Date:** 12/23/24

**SAMPLE RESULTS**

**Lab ID:** L2473940-03  
**Client ID:** TB-001-WT  
**Sample Location:** Not Specified

**Date Collected:** 12/16/24 00:00  
**Date Received:** 12/16/24  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 12/20/24 17:14  
**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 | 127        |           | 70-130              |
| Toluene-d8            | 106        |           | 70-130              |
| 4-Bromofluorobenzene  | 111        |           | 70-130              |
| Dibromofluoromethane  | 99         |           | 70-130              |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473940  
**Report Date:** 12/23/24

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260D  
 Analytical Date: 12/20/24 08:44  
 Analyst: PID

| Parameter                                                                         | Result | Qualifier | Units | RL   | MDL  |
|-----------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG2011907-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 117       |           | 70-130                 |
| Toluene-d8            | 106       |           | 70-130                 |
| 4-Bromofluorobenzene  | 113       |           | 70-130                 |
| Dibromofluoromethane  | 99        |           | 70-130                 |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473940  
**Report Date:** 12/23/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 12/20/24 11:11  
**Analyst:** PID

| Parameter                                                                            | Result | Qualifier | Units | RL   | MDL  |
|--------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG2012425-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 105       |           | 70-130                 |
| Toluene-d8            | 98        |           | 70-130                 |
| 4-Bromofluorobenzene  | 94        |           | 70-130                 |
| Dibromofluoromethane  | 109       |           | 70-130                 |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473940  
**Report Date:** 12/23/24

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260D  
 Analytical Date: 12/23/24 08:35  
 Analyst: PID

| Parameter                                                                         | Result | Qualifier | Units | RL   | MDL  |
|-----------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG2012762-5 |        |           |       |      |      |
| 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 | 94        |           | 70-130              |
| Toluene-d8            | 98        |           | 70-130              |
| 4-Bromofluorobenzene  | 95        |           | 70-130              |
| Dibromofluoromethane  | 106       |           | 70-130              |

# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** COA Q4 GW

**Project Number:** 21010210

**Lab Number:** L2473940

**Report Date:** 12/23/24

| Parameter                                                                                            | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG2011907-3 WG2011907-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                              | 96               |      | 96                |      | 70-130              | 0   |      | 20            |
| Toluene                                                                                              | 96               |      | 97                |      | 70-130              | 1   |      | 20            |
| Ethylbenzene                                                                                         | 97               |      | 96                |      | 70-130              | 1   |      | 20            |
| p/m-Xylene                                                                                           | 95               |      | 100               |      | 70-130              | 5   |      | 20            |
| o-Xylene                                                                                             | 95               |      | 95                |      | 70-130              | 0   |      | 20            |
| Naphthalene                                                                                          | 84               |      | 84                |      | 70-130              | 0   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 114              |      | 119               |      | 70-130                 |
| Toluene-d8            | 105              |      | 106               |      | 70-130                 |
| 4-Bromofluorobenzene  | 109              |      | 112               |      | 70-130                 |
| Dibromofluoromethane  | 99               |      | 101               |      | 70-130                 |

# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** COA Q4 GW

**Project Number:** 21010210

**Lab Number:** L2473940

**Report Date:** 12/23/24

| <b>Parameter</b>                                                                                        | <b>LCS<br/>%Recovery</b> | <b>Qual</b> | <b>LCSD<br/>%Recovery</b> | <b>Qual</b> | <b>%Recovery<br/>Limits</b> | <b>RPD</b> | <b>Qual</b> | <b>RPD<br/>Limits</b> |
|---------------------------------------------------------------------------------------------------------|--------------------------|-------------|---------------------------|-------------|-----------------------------|------------|-------------|-----------------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG2012425-3 WG2012425-4 |                          |             |                           |             |                             |            |             |                       |
| Benzene                                                                                                 | 100                      |             | 88                        |             | 70-130                      | 13         |             | 20                    |
| Toluene                                                                                                 | 100                      |             | 87                        |             | 70-130                      | 14         |             | 20                    |
| Ethylbenzene                                                                                            | 100                      |             | 87                        |             | 70-130                      | 14         |             | 20                    |
| p/m-Xylene                                                                                              | 105                      |             | 90                        |             | 70-130                      | 15         |             | 20                    |
| o-Xylene                                                                                                | 105                      |             | 90                        |             | 70-130                      | 15         |             | 20                    |
| Naphthalene                                                                                             | 82                       |             | 77                        |             | 70-130                      | 6          |             | 20                    |

| <b>Surrogate</b>      | <b>LCS<br/>%Recovery</b> | <b>Qual</b> | <b>LCSD<br/>%Recovery</b> | <b>Qual</b> | <b>Acceptance<br/>Criteria</b> |
|-----------------------|--------------------------|-------------|---------------------------|-------------|--------------------------------|
| 1,2-Dichloroethane-d4 | 104                      |             | 106                       |             | 70-130                         |
| Toluene-d8            | 100                      |             | 100                       |             | 70-130                         |
| 4-Bromofluorobenzene  | 95                       |             | 95                        |             | 70-130                         |
| Dibromofluoromethane  | 104                      |             | 105                       |             | 70-130                         |

# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** COA Q4 GW

**Project Number:** 21010210

**Lab Number:** L2473940

**Report Date:** 12/23/24

| <b>Parameter</b>                                                                                     | <b>LCS<br/>%Recovery</b> | <b>Qual</b> | <b>LCSD<br/>%Recovery</b> | <b>Qual</b> | <b>%Recovery<br/>Limits</b> | <b>RPD</b> | <b>Qual</b> | <b>RPD<br/>Limits</b> |
|------------------------------------------------------------------------------------------------------|--------------------------|-------------|---------------------------|-------------|-----------------------------|------------|-------------|-----------------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG2012762-3 WG2012762-4 |                          |             |                           |             |                             |            |             |                       |
| Benzene                                                                                              | 100                      |             | 89                        |             | 70-130                      | 12         |             | 20                    |
| Toluene                                                                                              | 100                      |             | 87                        |             | 70-130                      | 14         |             | 20                    |
| Ethylbenzene                                                                                         | 100                      |             | 87                        |             | 70-130                      | 14         |             | 20                    |
| p/m-Xylene                                                                                           | 105                      |             | 90                        |             | 70-130                      | 15         |             | 20                    |
| o-Xylene                                                                                             | 105                      |             | 90                        |             | 70-130                      | 15         |             | 20                    |
| Naphthalene                                                                                          | 84                       |             | 73                        |             | 70-130                      | 14         |             | 20                    |

| <b>Surrogate</b>      | <b>LCS<br/>%Recovery</b> | <b>Qual</b> | <b>LCSD<br/>%Recovery</b> | <b>Qual</b> | <b>Acceptance<br/>Criteria</b> |
|-----------------------|--------------------------|-------------|---------------------------|-------------|--------------------------------|
| 1,2-Dichloroethane-d4 | 94                       |             | 94                        |             | 70-130                         |
| Toluene-d8            | 101                      |             | 99                        |             | 70-130                         |
| 4-Bromofluorobenzene  | 96                       |             | 96                        |             | 70-130                         |
| Dibromofluoromethane  | 101                      |             | 102                       |             | 70-130                         |



**Project Name:** COA Q4 GW**Lab Number:** L2473940**Project Number:** 21010210**Report Date:** 12/23/24**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

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

A                                  Absent

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|--------------------|
| L2473940-01A        | Vial HCl preserved    | A             | NA                    |                     | 3.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473940-01B        | Vial HCl preserved    | A             | NA                    |                     | 3.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473940-01C        | Vial HCl preserved    | A             | NA                    |                     | 3.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473940-02A        | Vial HCl preserved    | A             | NA                    |                     | 3.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473940-02B        | Vial HCl preserved    | A             | NA                    |                     | 3.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473940-02C        | Vial HCl preserved    | A             | NA                    |                     | 3.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473940-03A        | Vial HCl preserved    | A             | NA                    |                     | 3.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473940-03B        | Vial HCl preserved    | A             | NA                    |                     | 3.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473940-03C        | Vial HCl preserved    | A             | NA                    |                     | 3.6                   | Y           | Absent      |                             | PA-8260(14)        |
| L2473940-03D        | Vial HCl preserved    | A             | NA                    |                     | 3.6                   | Y           | Absent      |                             | PA-8260(14)        |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473940  
**Report Date:** 12/23/24

## GLOSSARY

### Acronyms

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DL       | - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                |
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                                                                                         |
| EMPC     | - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.                                                                                                                                                                                                                               |
| EPA      | - Environmental Protection Agency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                          |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                         |
| LOD      | - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                                                               |
| LOQ      | - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)<br><br>Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                          |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.                                                                                                                                                                                                    |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NA       | - Not Applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.                                                                                                                                                                                                                                                                                                                                                                           |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NI       | - Not Ignitable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NR       | - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.                                                                                                                                                                                                                                                                                                                                                                    |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                                                                                                                                   |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.                                                                  |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.                                                                                                                                                                                                                                                                                                                                                                     |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TEF      | - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.                                                                                                                                                                                                                                                                                                                                                                                             |
| TEQ      | - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.                                                                                                                                                                                                                                                                                                                                                        |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.                                                                                                                                                                                                                                                                      |

Report Format: DU Report with 'J' Qualifiers



**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473940  
**Report Date:** 12/23/24

## 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 Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2473940  
**Report Date:** 12/23/24

#### Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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 Q4 GW**Lab Number:** L2473940**Project Number:** 21010210**Report Date:** 12/23/24

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

## LIMITATION OF LIABILITIES

Pace Analytical Services 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 Pace Analytical Services shall be to re-perform the work at it's own expense. In no event shall Pace Analytical Services 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 Pace Analytical Services.

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.



**Pace Analytical Services LLC**Facility: **Northeast**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**Revision **23**Published Date: **12/09/2024**Page **1** of **1****Certification Information**

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

**Westborough Facility – 8 Walkup Dr. Westborough, MA 01581****EPA 624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625.1:** alpha-Terpineol**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048****SM 2540D:** TSS.**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.

**Nonpotable Water:** **EPA RSK-175 Dissolved Gases****Biological Tissue Matrix:** EPA 3050B**Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048****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.

**Nonpotable Water:** **EPA RSK-175 Dissolved Gases**

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

**Westborough Facility – 8 Walkup Dr. Westborough, MA 01581****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.****Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048****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 Project Manager.







## ANALYTICAL REPORT

|                 |                                                                             |
|-----------------|-----------------------------------------------------------------------------|
| Lab Number:     | L2468377                                                                    |
| Client:         | Tradepoint Atlantic<br>1600 Sparrows Point Boulevard<br>Baltimore, MD 21219 |
| ATTN:           | Robert Tworkowski                                                           |
| Phone:          | (443) 649-5073                                                              |
| Project Name:   | COA GW 2024                                                                 |
| Project Number: | 21010210                                                                    |
| Report Date:    | 12/01/24                                                                    |

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

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





**Project Name:** COA GW 2024  
**Project Number:** 21010210

**Lab Number:** L2468377  
**Report Date:** 12/01/24

| <b>Alpha<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L2468377-01                | CO55-PZM000      | WATER         | Not Specified              | 11/20/24 09:15                  | 11/20/24            |
| L2468377-02                | CO26-PZM007      | WATER         | Not Specified              | 11/20/24 12:30                  | 11/20/24            |
| L2468377-03                | CO56-PZP001      | WATER         | Not Specified              | 11/20/24 13:10                  | 11/20/24            |
| L2468377-04                | CO58-PZM001      | WATER         | Not Specified              | 11/20/24 13:20                  | 11/20/24            |
| L2468377-05                | CO30-PZM015      | WATER         | Not Specified              | 11/20/24 14:05                  | 11/20/24            |
| L2468377-06                | CO195-MWS        | WATER         | Not Specified              | 11/20/24 14:40                  | 11/20/24            |
| L2468377-07                | TB-001-WT        | WATER         | Not Specified              | 11/20/24 00:00                  | 11/20/24            |

**Project Name:** COA GW 2024  
**Project Number:** 21010210

**Lab Number:** L2468377  
**Report Date:** 12/01/24

### 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 and solids are reported on a dry weight basis unless otherwise noted. Tissues are reported "as received" or on a wet 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.

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**Project Name:** COA GW 2024  
**Project Number:** 21010210

**Lab Number:** L2468377  
**Report Date:** 12/01/24

**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: 12/01/24

# ORGANICS

# VOLATILES

**Project Name:** COA GW 2024**Project Number:** 21010210**Lab Number:** L2468377**Report Date:** 12/01/24**SAMPLE RESULTS**

Lab ID: L2468377-01  
 Client ID: CO55-PZM000  
 Sample Location: Not Specified

Date Collected: 11/20/24 09:15  
 Date Received: 11/20/24  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 11/27/24 03:05  
 Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL   | MDL  | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |      |                 |
| Benzene                                      | 65     |           | ug/l  | 0.50 | 0.16 | 1               |
| Toluene                                      | 26     |           | ug/l  | 0.75 | 0.20 | 1               |
| Ethylbenzene                                 | 1.6    |           | ug/l  | 0.50 | 0.17 | 1               |
| p/m-Xylene                                   | 14     |           | ug/l  | 1.0  | 0.33 | 1               |
| o-Xylene                                     | 7.3    |           | ug/l  | 1.0  | 0.39 | 1               |
| Xylenes, Total                               | 21     |           | ug/l  | 1.0  | 0.33 | 1               |
| Naphthalene                                  | 130    |           | ug/l  | 1.0  | 0.22 | 1               |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 108        |           | 70-130              |
| Toluene-d8            | 96         |           | 70-130              |
| 4-Bromofluorobenzene  | 96         |           | 70-130              |
| Dibromofluoromethane  | 101        |           | 70-130              |

**Project Name:** COA GW 2024**Lab Number:** L2468377**Project Number:** 21010210**Report Date:** 12/01/24**SAMPLE RESULTS**

Lab ID: L2468377-02 D

Date Collected: 11/20/24 12:30

Client ID: CO26-PZM007

Date Received: 11/20/24

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 11/26/24 18:34

Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 210    |           | ug/l  | 5.0 | 1.6 | 10              |
| Toluene                                      | 110    |           | ug/l  | 7.5 | 2.0 | 10              |
| Ethylbenzene                                 | 5.7    |           | ug/l  | 5.0 | 1.7 | 10              |
| p/m-Xylene                                   | 85     |           | ug/l  | 10  | 3.3 | 10              |
| o-Xylene                                     | 37     |           | ug/l  | 10  | 3.9 | 10              |
| Xylenes, Total                               | 120    |           | ug/l  | 10  | 3.3 | 10              |
| Naphthalene                                  | 1200   |           | ug/l  | 10  | 2.2 | 10              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 107        |           | 70-130              |
| Toluene-d8            | 95         |           | 70-130              |
| 4-Bromofluorobenzene  | 95         |           | 70-130              |
| Dibromofluoromethane  | 101        |           | 70-130              |

**Project Name:** COA GW 2024**Lab Number:** L2468377**Project Number:** 21010210**Report Date:** 12/01/24**SAMPLE RESULTS**

Lab ID: L2468377-03 D

Date Collected: 11/20/24 13:10

Client ID: CO56-PZP001

Date Received: 11/20/24

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 11/26/24 18:11

Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 120    |           | ug/l  | 5.0 | 1.6 | 10              |
| Toluene                                      | 21     |           | ug/l  | 7.5 | 2.0 | 10              |
| Ethylbenzene                                 | 5.4    |           | ug/l  | 5.0 | 1.7 | 10              |
| p/m-Xylene                                   | 82     |           | ug/l  | 10  | 3.3 | 10              |
| o-Xylene                                     | 31     |           | ug/l  | 10  | 3.9 | 10              |
| Xylenes, Total                               | 110    |           | ug/l  | 10  | 3.3 | 10              |
| Naphthalene                                  | 1600   |           | ug/l  | 10  | 2.2 | 10              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 109        |           | 70-130              |
| Toluene-d8            | 95         |           | 70-130              |
| 4-Bromofluorobenzene  | 94         |           | 70-130              |
| Dibromofluoromethane  | 102        |           | 70-130              |



**Project Name:** COA GW 2024**Project Number:** 21010210**Lab Number:** L2468377**Report Date:** 12/01/24**SAMPLE RESULTS**

Lab ID: L2468377-04 D

Client ID: CO58-PZM001

Sample Location: Not Specified

Date Collected: 11/20/24 13:20

Date Received: 11/20/24

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 11/26/24 17:47

Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 150    |           | ug/l  | 5.0 | 1.6 | 10              |
| Toluene                                      | 59     |           | ug/l  | 7.5 | 2.0 | 10              |
| Ethylbenzene                                 | 8.0    |           | ug/l  | 5.0 | 1.7 | 10              |
| p/m-Xylene                                   | 97     |           | 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                                  | 1700   |           | ug/l  | 10  | 2.2 | 10              |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 110        |           | 70-130              |
| Toluene-d8            | 94         |           | 70-130              |
| 4-Bromofluorobenzene  | 94         |           | 70-130              |
| Dibromofluoromethane  | 104        |           | 70-130              |

**Project Name:** COA GW 2024**Project Number:** 21010210**Lab Number:** L2468377**Report Date:** 12/01/24**SAMPLE RESULTS**

Lab ID: L2468377-05 D

Client ID: CO30-PZM015

Sample Location: Not Specified

Date Collected: 11/20/24 14:05

Date Received: 11/20/24

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 11/28/24 07:22

Analyst: PID

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

**Volatile Organics by GC/MS - Westborough Lab**

|                |       |   |      |     |     |     |
|----------------|-------|---|------|-----|-----|-----|
| Benzene        | 38000 |   | ug/l | 100 | 32. | 200 |
| Toluene        | 3200  |   | ug/l | 150 | 41. | 200 |
| Ethylbenzene   | 76    | J | ug/l | 100 | 33. | 200 |
| p/m-Xylene     | 690   |   | ug/l | 200 | 66. | 200 |
| o-Xylene       | 300   |   | ug/l | 200 | 78. | 200 |
| Xylenes, Total | 990   |   | ug/l | 200 | 66. | 200 |
| Naphthalene    | 1800  |   | ug/l | 200 | 43. | 200 |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 103        |           | 70-130              |
| Toluene-d8            | 94         |           | 70-130              |
| 4-Bromofluorobenzene  | 97         |           | 70-130              |
| Dibromofluoromethane  | 96         |           | 70-130              |

**Project Name:** COA GW 2024  
**Project Number:** 21010210

**Lab Number:** L2468377  
**Report Date:** 12/01/24

**SAMPLE RESULTS**

Lab ID: L2468377-06 D  
 Client ID: CO195-MWS  
 Sample Location: Not Specified

Date Collected: 11/20/24 14:40  
 Date Received: 11/20/24  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 11/26/24 16:59  
 Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 24000  |           | ug/l  | 120 | 40. | 250             |
| Toluene                                      | 1900   |           | ug/l  | 190 | 51. | 250             |
| Ethylbenzene                                 | 43     | J         | ug/l  | 120 | 42. | 250             |
| p/m-Xylene                                   | 370    |           | ug/l  | 250 | 83. | 250             |
| o-Xylene                                     | 150    | J         | ug/l  | 250 | 98. | 250             |
| Xylenes, Total                               | 520    | J         | ug/l  | 250 | 83. | 250             |
| Naphthalene                                  | 1300   |           | ug/l  | 250 | 54. | 250             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 108        |           | 70-130              |
| Toluene-d8            | 94         |           | 70-130              |
| 4-Bromofluorobenzene  | 97         |           | 70-130              |
| Dibromofluoromethane  | 99         |           | 70-130              |

**Project Name:** COA GW 2024  
**Project Number:** 21010210

**Lab Number:** L2468377  
**Report Date:** 12/01/24

**SAMPLE RESULTS**

**Lab ID:** L2468377-07  
**Client ID:** TB-001-WT  
**Sample Location:** Not Specified

**Date Collected:** 11/20/24 00:00  
**Date Received:** 11/20/24  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 11/26/24 16:35  
**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 | 108        |           | 70-130              |
| Toluene-d8            | 94         |           | 70-130              |
| 4-Bromofluorobenzene  | 94         |           | 70-130              |
| Dibromofluoromethane  | 103        |           | 70-130              |

**Project Name:** COA GW 2024  
**Project Number:** 21010210

**Lab Number:** L2468377  
**Report Date:** 12/01/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 11/26/24 21:54  
**Analyst:** TMS

| Parameter                                                                         | Result | Qualifier | Units | RL   | MDL  |
|-----------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG2003131-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 111       |           | 70-130                 |
| Toluene-d8            | 94        |           | 70-130                 |
| 4-Bromofluorobenzene  | 96        |           | 70-130                 |
| Dibromofluoromethane  | 104       |           | 70-130                 |

Project Name: COA GW 2024

Lab Number: L2468377

Project Number: 21010210

Report Date: 12/01/24

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260D  
 Analytical Date: 11/26/24 10:36  
 Analyst: PID

| Parameter                                                                                  | Result | Qualifier | Units | RL   | MDL  |
|--------------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 02-04,06-07 Batch: WG2003258-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 109       |           | 70-130                 |
| Toluene-d8            | 95        |           | 70-130                 |
| 4-Bromofluorobenzene  | 99        |           | 70-130                 |
| Dibromofluoromethane  | 101       |           | 70-130                 |

**Project Name:** COA GW 2024  
**Project Number:** 21010210

**Lab Number:** L2468377  
**Report Date:** 12/01/24

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260D  
 Analytical Date: 11/27/24 23:38  
 Analyst: TMS

| Parameter                                                                         | Result | Qualifier | Units | RL   | MDL  |
|-----------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 05 Batch: WG2003575-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 105       |           | 70-130                 |
| Toluene-d8            | 94        |           | 70-130                 |
| 4-Bromofluorobenzene  | 97        |           | 70-130                 |
| Dibromofluoromethane  | 102       |           | 70-130                 |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: COA GW 2024

Project Number: 21010210

Lab Number: L2468377

Report Date: 12/01/24

| Parameter                                                                                            | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG2003131-3 WG2003131-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                              | 100              |      | 110               |      | 70-130              | 10  |      | 20            |
| Toluene                                                                                              | 96               |      | 100               |      | 70-130              | 4   |      | 20            |
| Ethylbenzene                                                                                         | 96               |      | 100               |      | 70-130              | 4   |      | 20            |
| p/m-Xylene                                                                                           | 95               |      | 105               |      | 70-130              | 10  |      | 20            |
| o-Xylene                                                                                             | 95               |      | 105               |      | 70-130              | 10  |      | 20            |
| Naphthalene                                                                                          | 78               |      | 91                |      | 70-130              | 15  |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 111              |      | 114               |      | 70-130                 |
| Toluene-d8            | 97               |      | 96                |      | 70-130                 |
| 4-Bromofluorobenzene  | 94               |      | 95                |      | 70-130                 |
| Dibromofluoromethane  | 103              |      | 103               |      | 70-130                 |



## Lab Control Sample Analysis

### Batch Quality Control

Project Name: COA GW 2024

Project Number: 21010210

Lab Number: L2468377

Report Date: 12/01/24

| Parameter                                                                                                     | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---------------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-04,06-07 Batch: WG2003258-3 WG2003258-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                       | 92               |      | 92                |      | 70-130              | 0   |      | 20            |
| Toluene                                                                                                       | 87               |      | 86                |      | 70-130              | 1   |      | 20            |
| Ethylbenzene                                                                                                  | 84               |      | 84                |      | 70-130              | 0   |      | 20            |
| p/m-Xylene                                                                                                    | 85               |      | 85                |      | 70-130              | 0   |      | 20            |
| o-Xylene                                                                                                      | 85               |      | 85                |      | 70-130              | 0   |      | 20            |
| Naphthalene                                                                                                   | 71               |      | 70                |      | 70-130              | 1   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 111              |      | 110               |      | 70-130                 |
| Toluene-d8            | 96               |      | 96                |      | 70-130                 |
| 4-Bromofluorobenzene  | 97               |      | 97                |      | 70-130                 |
| Dibromofluoromethane  | 103              |      | 103               |      | 70-130                 |

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: COA GW 2024

Project Number: 21010210

Lab Number: L2468377

Report Date: 12/01/24

| Parameter                                                                                            | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05 Batch: WG2003575-3 WG2003575-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                              | 100              |      | 100               |      | 70-130              | 0   |      | 20            |
| Toluene                                                                                              | 96               |      | 100               |      | 70-130              | 4   |      | 20            |
| Ethylbenzene                                                                                         | 94               |      | 98                |      | 70-130              | 4   |      | 20            |
| p/m-Xylene                                                                                           | 95               |      | 100               |      | 70-130              | 5   |      | 20            |
| o-Xylene                                                                                             | 95               |      | 100               |      | 70-130              | 5   |      | 20            |
| Naphthalene                                                                                          | 86               |      | 88                |      | 70-130              | 2   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 110              |      | 107               |      | 70-130                 |
| Toluene-d8            | 96               |      | 97                |      | 70-130                 |
| 4-Bromofluorobenzene  | 98               |      | 98                |      | 70-130                 |
| Dibromofluoromethane  | 103              |      | 101               |      | 70-130                 |

**Project Name:** COA GW 2024**Lab Number:** L2468377**Project Number:** 21010210**Report Date:** 12/01/24**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

|               |                     |
|---------------|---------------------|
| <b>Cooler</b> | <b>Custody Seal</b> |
| A             | Absent              |

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial pH</b> | <b>Final pH</b> | <b>Temp deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-------------------|-----------------|-------------------|-------------|-------------|-------------------------|--------------------|
| L2468377-01A        | Vial HCl preserved    | A             | NA                |                 | 3.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2468377-01B        | Vial HCl preserved    | A             | NA                |                 | 3.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2468377-02A        | Vial HCl preserved    | A             | NA                |                 | 3.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2468377-02B        | Vial HCl preserved    | A             | NA                |                 | 3.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2468377-02C        | Vial HCl preserved    | A             | NA                |                 | 3.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2468377-03A        | Vial HCl preserved    | A             | NA                |                 | 3.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2468377-03B        | Vial HCl preserved    | A             | NA                |                 | 3.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2468377-03C        | Vial HCl preserved    | A             | NA                |                 | 3.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2468377-04A        | Vial HCl preserved    | A             | NA                |                 | 3.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2468377-04B        | Vial HCl preserved    | A             | NA                |                 | 3.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2468377-04C        | Vial HCl preserved    | A             | NA                |                 | 3.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2468377-05A        | Vial HCl preserved    | A             | NA                |                 | 3.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2468377-05B        | Vial HCl preserved    | A             | NA                |                 | 3.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2468377-05C        | Vial HCl preserved    | A             | NA                |                 | 3.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2468377-06A        | Vial HCl preserved    | A             | NA                |                 | 3.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2468377-06B        | Vial HCl preserved    | A             | NA                |                 | 3.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2468377-06C        | Vial HCl preserved    | A             | NA                |                 | 3.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2468377-07A        | Vial HCl preserved    | A             | NA                |                 | 3.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2468377-07B        | Vial HCl preserved    | A             | NA                |                 | 3.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2468377-07C        | Vial HCl preserved    | A             | NA                |                 | 3.3               | Y           | Absent      |                         | PA-8260(14)        |
| L2468377-07D        | Vial HCl preserved    | A             | NA                |                 | 3.3               | Y           | Absent      |                         | PA-8260(14)        |

**Project Name:** COA GW 2024  
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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.)<br><br>Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                          |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.                                                                                                                                                                                                    |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NA       | - Not Applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.                                                                                                                                                                                                                                                                                                                                                                           |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NI       | - Not Ignitable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NR       | - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.                                                                                                                                                                                                                                                                                                                                                                    |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                                                                                                                                   |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.                                                                  |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.                                                                                                                                                                                                                                                                                                                                                                     |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TEF      | - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.                                                                                                                                                                                                                                                                                                                                                                                             |
| TEQ      | - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.                                                                                                                                                                                                                                                                                                                                                        |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.                                                                                                                                                                                                                                                                      |

Report Format: DU Report with 'J' Qualifiers



**Project Name:** COA GW 2024  
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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 2024  
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#### Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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 2024**Lab Number:** L2468377**Project Number:** 21010210**Report Date:** 12/01/24

## 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.



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## Certification Information

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

**Westborough Facility**

**EPA 624.1:** m/p-xylene, o-xylene, Naphthalene

**EPA 625.1:** alpha-Terpineol

**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270E:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine, 2,6-Dichlorophenol.

**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

**Mansfield Facility**

**SM 2540D:** TSS.

**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.

**Nonpotable Water:** **EPA RSK-175 Dissolved Gases**

**Biological Tissue Matrix:** EPA 3050B

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

**Westborough Facility:**

**Drinking Water**

**EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

**EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**

**EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

**Non-Potable Water**

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

**SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.

**EPA 624.1:** Volatile Halocarbons & Aromatics,

**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, 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**

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





## CHAIN OF CUSTODY

PAGE 1 OF 1

WESTBORO, MA  
TEL: 508-898-8220  
FAX: 508-898-9193

MANSFIELD, MA  
TEL: 508-822-9300  
FAX: 508-822-3288

## Client Information

Client: Trade Point Atlantic  
Address: 6995 Bethlehem Blvd  
Spartan Point MD  
Phone:

Fax:

Email: TSCHN@tmg.com  
ksullivan@tmg.com

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name: COA GW 2024

Project Location:

Project #: 21010210Project Manager: Bob T

ALPHA Quote #:

## Turn-Around Time

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

Date Due:

Time:

Other Project Specific Requirements/Comments/Detection Limits:

Date Rec'd in Lab: 11/21/24ALPHA Job #: 12468377

## 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

ANALYSIS  
DTEX + Nephthalein Free

## SAMPLE HANDLING

Filtration \_\_\_\_\_

☐ Done☐ Not needed☐ Lab to do

Preservation

☐ Lab to do

(Please specify below)

Sample Specific Comments

| ALPHA Lab ID<br>(Lab Use Only) | Sample ID   | Collection |      | Sample<br>Matrix | Sampler's<br>Initials | BTE |  |  |  |  |  |  |  |  |  | Lab 10-00<br>(Please specify below) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|                                |             | Date       | Time |                  |                       |     |  |  |  |  |  |  |  |  |  | Sample Specific Comments            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 68377-01                       | C055-P2M000 | 11/20/24   | 9:15 | GW               | AZJ                   | X   |  |  |  |  |  |  |  |  |  |                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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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:     | L2472314                                                                    |
| Client:         | Tradepoint Atlantic<br>1600 Sparrows Point Boulevard<br>Baltimore, MD 21219 |
| ATTN:           | Matthew Newman                                                              |
| Phone:          | (443) 649-5073                                                              |
| Project Name:   | COA Q4 GW                                                                   |
| Project Number: | 21010210                                                                    |
| Report Date:    | 12/17/24                                                                    |

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

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508-898-9220 (Fax) 508-898-9193 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2472314  
**Report Date:** 12/17/24

| <b>Lab<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|--------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L2472314-01              | CO93-PZM         | WATER         | Not Specified              | 12/10/24 12:10                  | 12/10/24            |
| L2472314-02              | CO186-MWS        | WATER         | Not Specified              | 12/10/24 14:20                  | 12/10/24            |
| L2472314-03              | CO182-MWI        | WATER         | Not Specified              | 12/10/24 15:05                  | 12/10/24            |
| L2472314-04              | TB-001-WT        | WATER         | Not Specified              | 12/10/24 00:00                  | 12/10/24            |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2472314  
**Report Date:** 12/17/24

### 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 Pace 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 and solids are reported on a dry weight basis unless otherwise noted. Tissues are reported "as received" or on a wet 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, Pace'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 Pace Project Manager and made arrangements for Pace 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.

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**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2472314  
**Report Date:** 12/17/24

**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:



Cristin Walker

Title: Technical Director/Representative

Date: 12/17/24

# ORGANICS

# **VOLATILES**

**Project Name:** COA Q4 GW**Lab Number:** L2472314**Project Number:** 21010210**Report Date:** 12/17/24**SAMPLE RESULTS**

Lab ID: L2472314-01 D

Date Collected: 12/10/24 12:10

Client ID: CO93-PZM

Date Received: 12/10/24

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 12/13/24 11:22

Analyst: RAW

| Parameter                                    | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |     |                 |
| Benzene                                      | 130000 |           | ug/l  | 500  | 160 | 1000            |
| Toluene                                      | 40000  |           | ug/l  | 750  | 200 | 1000            |
| Ethylbenzene                                 | 1200   |           | ug/l  | 500  | 170 | 1000            |
| p/m-Xylene                                   | 10000  |           | ug/l  | 1000 | 330 | 1000            |
| o-Xylene                                     | 3200   |           | ug/l  | 1000 | 390 | 1000            |
| Xylenes, Total                               | 13000  |           | ug/l  | 1000 | 330 | 1000            |
| Naphthalene                                  | 1700   |           | ug/l  | 1000 | 220 | 1000            |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 86         |           | 70-130              |
| Toluene-d8            | 96         |           | 70-130              |
| 4-Bromofluorobenzene  | 95         |           | 70-130              |
| Dibromofluoromethane  | 103        |           | 70-130              |



**Project Name:** COA Q4 GW**Lab Number:** L2472314**Project Number:** 21010210**Report Date:** 12/17/24**SAMPLE RESULTS**

Lab ID: L2472314-02 D

Date Collected: 12/10/24 14:20

Client ID: CO186-MWS

Date Received: 12/10/24

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 12/13/24 11:44

Analyst: RAW

| Parameter                                    | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |     |                 |
| Benzene                                      | 140000 |           | ug/l  | 500  | 160 | 1000            |
| Toluene                                      | 37000  |           | ug/l  | 750  | 200 | 1000            |
| Ethylbenzene                                 | 240    | J         | ug/l  | 500  | 170 | 1000            |
| p/m-Xylene                                   | 3200   |           | ug/l  | 1000 | 330 | 1000            |
| o-Xylene                                     | 1000   |           | ug/l  | 1000 | 390 | 1000            |
| Xylenes, Total                               | 4200   |           | ug/l  | 1000 | 330 | 1000            |
| Naphthalene                                  | ND     |           | ug/l  | 1000 | 220 | 1000            |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 86         |           | 70-130              |
| Toluene-d8            | 96         |           | 70-130              |
| 4-Bromofluorobenzene  | 97         |           | 70-130              |
| Dibromofluoromethane  | 103        |           | 70-130              |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2472314  
**Report Date:** 12/17/24

**SAMPLE RESULTS**

Lab ID: L2472314-03 D  
 Client ID: CO182-MWI  
 Sample Location: Not Specified

Date Collected: 12/10/24 15:05  
 Date Received: 12/10/24  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 12/13/24 12:05  
 Analyst: RAW

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 22000  |           | ug/l  | 100 | 32. | 200             |
| Toluene                                      | 2500   |           | ug/l  | 150 | 41. | 200             |
| Ethylbenzene                                 | 100    |           | ug/l  | 100 | 33. | 200             |
| p/m-Xylene                                   | 900    |           | ug/l  | 200 | 66. | 200             |
| o-Xylene                                     | 370    |           | ug/l  | 200 | 78. | 200             |
| Xylenes, Total                               | 1300   |           | ug/l  | 200 | 66. | 200             |
| Naphthalene                                  | 73     | J         | ug/l  | 200 | 43. | 200             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 86         |           | 70-130              |
| Toluene-d8            | 94         |           | 70-130              |
| 4-Bromofluorobenzene  | 96         |           | 70-130              |
| Dibromofluoromethane  | 105        |           | 70-130              |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2472314  
**Report Date:** 12/17/24

**SAMPLE RESULTS**

**Lab ID:** L2472314-04  
**Client ID:** TB-001-WT  
**Sample Location:** Not Specified

**Date Collected:** 12/10/24 00:00  
**Date Received:** 12/10/24  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 12/13/24 11:00  
**Analyst:** RAW

| 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 | 99         |           | 70-130              |
| Toluene-d8            | 94         |           | 70-130              |
| 4-Bromofluorobenzene  | 95         |           | 70-130              |
| Dibromofluoromethane  | 123        |           | 70-130              |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2472314  
**Report Date:** 12/17/24

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260D  
 Analytical Date: 12/13/24 10:38  
 Analyst: PID

| Parameter                                                                            | Result | Qualifier | Units | RL   | MDL  |
|--------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG2009094-5 |        |           |       |      |      |
| 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 | 104       |           | 70-130              |
| Toluene-d8            | 93        |           | 70-130              |
| 4-Bromofluorobenzene  | 94        |           | 70-130              |
| Dibromofluoromethane  | 125       |           | 70-130              |

# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** COA Q4 GW

**Project Number:** 21010210

**Lab Number:** L2472314

**Report Date:** 12/17/24

| Parameter                                                                                               | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|---------------------------------------------------------------------------------------------------------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG2009094-3 WG2009094-4 |                  |      |                   |      |                     |     |      |               |
| Benzene                                                                                                 | 93               |      | 83                |      | 70-130              | 11  |      | 20            |
| Toluene                                                                                                 | 98               |      | 86                |      | 70-130              | 13  |      | 20            |
| Ethylbenzene                                                                                            | 99               |      | 84                |      | 70-130              | 16  |      | 20            |
| p/m-Xylene                                                                                              | 105              |      | 90                |      | 70-130              | 15  |      | 20            |
| o-Xylene                                                                                                | 105              |      | 90                |      | 70-130              | 15  |      | 20            |
| Naphthalene                                                                                             | 81               |      | 78                |      | 70-130              | 4   |      | 20            |

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 103              |      | 106               |      | 70-130                 |
| Toluene-d8            | 100              |      | 99                |      | 70-130                 |
| 4-Bromofluorobenzene  | 89               |      | 91                |      | 70-130                 |
| Dibromofluoromethane  | 112              |      | 110               |      | 70-130                 |

**Project Name:** COA Q4 GW**Lab Number:** L2472314**Project Number:** 21010210**Report Date:** 12/17/24**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

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

A                                  Absent

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|--------------------|
| L2472314-01A        | Vial HCl preserved    | A             | NA                    |                     | 4.3                   | Y           | Absent      |                             | PA-8260(14)        |
| L2472314-01B        | Vial HCl preserved    | A             | NA                    |                     | 4.3                   | Y           | Absent      |                             | PA-8260(14)        |
| L2472314-01C        | Vial HCl preserved    | A             | NA                    |                     | 4.3                   | Y           | Absent      |                             | PA-8260(14)        |
| L2472314-02A        | Vial HCl preserved    | A             | NA                    |                     | 4.3                   | Y           | Absent      |                             | PA-8260(14)        |
| L2472314-02B        | Vial HCl preserved    | A             | NA                    |                     | 4.3                   | Y           | Absent      |                             | PA-8260(14)        |
| L2472314-02C        | Vial HCl preserved    | A             | NA                    |                     | 4.3                   | Y           | Absent      |                             | PA-8260(14)        |
| L2472314-03A        | Vial HCl preserved    | A             | NA                    |                     | 4.3                   | Y           | Absent      |                             | PA-8260(14)        |
| L2472314-03B        | Vial HCl preserved    | A             | NA                    |                     | 4.3                   | Y           | Absent      |                             | PA-8260(14)        |
| L2472314-03C        | Vial HCl preserved    | A             | NA                    |                     | 4.3                   | Y           | Absent      |                             | PA-8260(14)        |
| L2472314-04A        | Vial HCl preserved    | A             | NA                    |                     | 4.3                   | Y           | Absent      |                             | PA-8260(14)        |
| L2472314-04B        | Vial HCl preserved    | A             | NA                    |                     | 4.3                   | Y           | Absent      |                             | PA-8260(14)        |
| L2472314-04C        | Vial HCl preserved    | A             | NA                    |                     | 4.3                   | Y           | Absent      |                             | PA-8260(14)        |
| L2472314-04D        | Vial HCl preserved    | A             | NA                    |                     | 4.3                   | Y           | Absent      |                             | PA-8260(14)        |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2472314  
**Report Date:** 12/17/24

## GLOSSARY

### Acronyms

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DL       | - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                |
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).                                                                                         |
| EMPC     | - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.                                                                                                                                                                                                                               |
| EPA      | - Environmental Protection Agency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                          |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.                                                                                                                                                                                                                                                                                                                         |
| LOD      | - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)                                                                                                                                                                                                               |
| LOQ      | - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)<br><br>Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                          |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.                                                                                                                                                                                                    |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NA       | - Not Applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.                                                                                                                                                                                                                                                                                                                                                                           |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NI       | - Not Ignitable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NR       | - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.                                                                                                                                                                                                                                                                                                                                                                    |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                                                                                                                                   |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.                                                                  |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.                                                                                                                                                                                                                                                                                                                                                                     |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TEF      | - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.                                                                                                                                                                                                                                                                                                                                                                                             |
| TEQ      | - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.                                                                                                                                                                                                                                                                                                                                                        |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.                                                                                                                                                                                                                                                                      |

Report Format: DU Report with 'J' Qualifiers



**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2472314  
**Report Date:** 12/17/24

### 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 Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2472314  
**Report Date:** 12/17/24

#### Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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 Q4 GW**Lab Number:** L2472314**Project Number:** 21010210**Report Date:** 12/17/24

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

## LIMITATION OF LIABILITIES

Pace Analytical Services 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 Pace Analytical Services shall be to re-perform the work at it's own expense. In no event shall Pace Analytical Services 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 Pace Analytical Services.

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.



**Pace Analytical Services LLC**

ID No.:17873

Facility: **Northeast**

Revision 23

Department: **Quality Assurance**

Published Date: 12/09/2024

Title: **Certificate/Approval Program Summary**

Page 1 of 1

**Certification Information**

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

**Westborough Facility – 8 Walkup Dr. Westborough, MA 01581****EPA 624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625.1:** alpha-Terpineol**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048****SM 2540D:** TSS.**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.

**Nonpotable Water:** **EPA RSK-175 Dissolved Gases****Biological Tissue Matrix:** EPA 3050B**Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048****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.

**Nonpotable Water:** **EPA RSK-175 Dissolved Gases**

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

**Westborough Facility – 8 Walkup Dr. Westborough, MA 01581****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.****Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048****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 Project Manager.



Done 12/11/24

- July 12/11 3:30



## ANALYTICAL REPORT

|                 |                                                                             |
|-----------------|-----------------------------------------------------------------------------|
| Lab Number:     | L2474265                                                                    |
| Client:         | Tradepoint Atlantic<br>1600 Sparrows Point Boulevard<br>Baltimore, MD 21219 |
| ATTN:           | Matthew Newman                                                              |
| Phone:          | (443) 649-5073                                                              |
| Project Name:   | COA Q4 GW                                                                   |
| Project Number: | 21010210                                                                    |
| Report Date:    | 12/24/24                                                                    |

The original project report/data package is held by Pace Analytical Services. This report/data package is paginated and should be reproduced only in its entirety. Pace Analytical Services 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-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

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



**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2474265  
**Report Date:** 12/24/24

| <b>Lab<br/>Sample ID</b> | <b>Client ID</b> | <b>Matrix</b> | <b>Sample<br/>Location</b> | <b>Collection<br/>Date/Time</b> | <b>Receive Date</b> |
|--------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L2474265-01              | CO190-MWS        | WATER         | Not Specified              | 12/17/24 10:35                  | 12/17/24            |
| L2474265-02              | CO41-PZM036      | WATER         | Not Specified              | 12/17/24 11:35                  | 12/17/24            |
| L2474265-03              | CO27-PZM046      | WATER         | Not Specified              | 12/17/24 12:45                  | 12/17/24            |
| L2474265-04              | CO27-PZM012      | WATER         | Not Specified              | 12/17/24 13:15                  | 12/17/24            |
| L2474265-05              | TB-001-WT        | WATER         | Not Specified              | 12/17/24 00:00                  | 12/17/24            |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2474265  
**Report Date:** 12/24/24

### 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 Pace 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 and solids are reported on a dry weight basis unless otherwise noted. Tissues are reported "as received" or on a wet 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, Pace'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 Pace Project Manager and made arrangements for Pace 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 Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2474265  
**Report Date:** 12/24/24

**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: 12/24/24



# ORGANICS

# VOLATILES

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2474265  
**Report Date:** 12/24/24

**SAMPLE RESULTS**

Lab ID: L2474265-01 D  
 Client ID: CO190-MWS  
 Sample Location: Not Specified

Date Collected: 12/17/24 10:35  
 Date Received: 12/17/24  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Water  
 Analytical Method: 1,8260D  
 Analytical Date: 12/22/24 13:30  
 Analyst: PID

| Parameter                                    | Result | Qualifier | Units | RL   | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|------|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |     |                 |
| Benzene                                      | 290000 |           | ug/l  | 1000 | 320 | 2000            |
| Toluene                                      | 14000  |           | ug/l  | 1500 | 410 | 2000            |
| Ethylbenzene                                 | ND     |           | ug/l  | 1000 | 330 | 2000            |
| p/m-Xylene                                   | ND     |           | ug/l  | 2000 | 660 | 2000            |
| o-Xylene                                     | ND     |           | ug/l  | 2000 | 780 | 2000            |
| Xylenes, Total                               | ND     |           | ug/l  | 2000 | 660 | 2000            |
| Naphthalene                                  | ND     |           | ug/l  | 2000 | 430 | 2000            |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 91         |           | 70-130              |
| Toluene-d8            | 100        |           | 70-130              |
| 4-Bromofluorobenzene  | 96         |           | 70-130              |
| Dibromofluoromethane  | 100        |           | 70-130              |

**Project Name:** COA Q4 GW**Lab Number:** L2474265**Project Number:** 21010210**Report Date:** 12/24/24**SAMPLE RESULTS**

Lab ID: L2474265-02 D

Date Collected: 12/17/24 11:35

Client ID: CO41-PZM036

Date Received: 12/17/24

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 12/24/24 00:37

Analyst: MJV

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 35000  |           | ug/l  | 120 | 40. | 250             |
| Toluene                                      | 18000  |           | ug/l  | 190 | 51. | 250             |
| Ethylbenzene                                 | 760    |           | ug/l  | 120 | 42. | 250             |
| p/m-Xylene                                   | 7400   |           | ug/l  | 250 | 83. | 250             |
| o-Xylene                                     | 1200   |           | ug/l  | 250 | 98. | 250             |
| Xylenes, Total                               | 8600   |           | ug/l  | 250 | 83. | 250             |
| Naphthalene                                  | 330    |           | ug/l  | 250 | 54. | 250             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 86         |           | 70-130              |
| Toluene-d8            | 105        |           | 70-130              |
| 4-Bromofluorobenzene  | 105        |           | 70-130              |
| Dibromofluoromethane  | 95         |           | 70-130              |

**Project Name:** COA Q4 GW**Lab Number:** L2474265**Project Number:** 21010210**Report Date:** 12/24/24**SAMPLE RESULTS**

Lab ID: L2474265-03 D

Date Collected: 12/17/24 12:45

Client ID: CO27-PZM046

Date Received: 12/17/24

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 12/22/24 14:21

Analyst: PID

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 11000  |           | ug/l  | 50  | 16. | 100             |
| Toluene                                      | 4000   |           | ug/l  | 75  | 20. | 100             |
| Ethylbenzene                                 | 140    |           | ug/l  | 50  | 17. | 100             |
| p/m-Xylene                                   | 870    |           | ug/l  | 100 | 33. | 100             |
| o-Xylene                                     | 360    |           | ug/l  | 100 | 39. | 100             |
| Xylenes, Total                               | 1200   |           | ug/l  | 100 | 33. | 100             |
| Naphthalene                                  | 840    |           | ug/l  | 100 | 22. | 100             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 90         |           | 70-130              |
| Toluene-d8            | 99         |           | 70-130              |
| 4-Bromofluorobenzene  | 95         |           | 70-130              |
| Dibromofluoromethane  | 100        |           | 70-130              |

**Project Name:** COA Q4 GW**Lab Number:** L2474265**Project Number:** 21010210**Report Date:** 12/24/24**SAMPLE RESULTS**

Lab ID: L2474265-04 D

Date Collected: 12/17/24 13:15

Client ID: CO27-PZM012

Date Received: 12/17/24

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260D

Analytical Date: 12/22/24 14:46

Analyst: PID

| Parameter                                    | Result | Qualifier | Units | RL  | MDL | Dilution Factor |
|----------------------------------------------|--------|-----------|-------|-----|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |     |     |                 |
| Benzene                                      | 7900   |           | ug/l  | 50  | 16. | 100             |
| Toluene                                      | 2600   |           | ug/l  | 75  | 20. | 100             |
| Ethylbenzene                                 | 84     |           | ug/l  | 50  | 17. | 100             |
| p/m-Xylene                                   | 480    |           | ug/l  | 100 | 33. | 100             |
| o-Xylene                                     | 220    |           | ug/l  | 100 | 39. | 100             |
| Xylenes, Total                               | 700    |           | ug/l  | 100 | 33. | 100             |
| Naphthalene                                  | 450    |           | ug/l  | 100 | 22. | 100             |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 90         |           | 70-130              |
| Toluene-d8            | 100        |           | 70-130              |
| 4-Bromofluorobenzene  | 96         |           | 70-130              |
| Dibromofluoromethane  | 100        |           | 70-130              |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2474265  
**Report Date:** 12/24/24

**SAMPLE RESULTS**

**Lab ID:** L2474265-05  
**Client ID:** TB-001-WT  
**Sample Location:** Not Specified

**Date Collected:** 12/17/24 00:00  
**Date Received:** 12/17/24  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Water  
**Analytical Method:** 1,8260D  
**Analytical Date:** 12/22/24 10:57  
**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 | 106        |           | 70-130              |
| Toluene-d8            | 98         |           | 70-130              |
| 4-Bromofluorobenzene  | 93         |           | 70-130              |
| Dibromofluoromethane  | 115        |           | 70-130              |

**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2474265  
**Report Date:** 12/24/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 12/22/24 10:31  
**Analyst:** PID

| Parameter                                                                               | Result | Qualifier | Units | RL   | MDL  |
|-----------------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01,03-05 Batch: WG2013032-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 106       |           | 70-130                 |
| Toluene-d8            | 98        |           | 70-130                 |
| 4-Bromofluorobenzene  | 92        |           | 70-130                 |
| Dibromofluoromethane  | 113       |           | 70-130                 |



**Project Name:** COA Q4 GW  
**Project Number:** 21010210

**Lab Number:** L2474265  
**Report Date:** 12/24/24

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8260D  
**Analytical Date:** 12/23/24 21:40  
**Analyst:** TMS

| Parameter                                                                         | Result | Qualifier | Units | RL   | MDL  |
|-----------------------------------------------------------------------------------|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG2013170-5 |        |           |       |      |      |
| 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<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 88        |           | 70-130                 |
| Toluene-d8            | 103       |           | 70-130                 |
| 4-Bromofluorobenzene  | 101       |           | 70-130                 |
| Dibromofluoromethane  | 100       |           | 70-130                 |

# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** COA Q4 GW

**Project Number:** 21010210

**Lab Number:** L2474265

**Report Date:** 12/24/24

| <b>Parameter</b>                                                                                           | <b>LCS<br/>%Recovery</b> | <b>Qual</b> | <b>LCSD<br/>%Recovery</b> | <b>Qual</b> | <b>%Recovery<br/>Limits</b> | <b>RPD</b> | <b>Qual</b> | <b>RPD<br/>Limits</b> |
|------------------------------------------------------------------------------------------------------------|--------------------------|-------------|---------------------------|-------------|-----------------------------|------------|-------------|-----------------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03-05 Batch: WG2013032-3 WG2013032-4 |                          |             |                           |             |                             |            |             |                       |
| Benzene                                                                                                    | 96                       |             | 97                        |             | 70-130                      | 1          |             | 20                    |
| Toluene                                                                                                    | 95                       |             | 95                        |             | 70-130                      | 0          |             | 20                    |
| Ethylbenzene                                                                                               | 96                       |             | 96                        |             | 70-130                      | 0          |             | 20                    |
| p/m-Xylene                                                                                                 | 100                      |             | 100                       |             | 70-130                      | 0          |             | 20                    |
| o-Xylene                                                                                                   | 95                       |             | 95                        |             | 70-130                      | 0          |             | 20                    |
| Naphthalene                                                                                                | 71                       |             | 73                        |             | 70-130                      | 3          |             | 20                    |

| <b>Surrogate</b>      | <b>LCS<br/>%Recovery</b> | <b>Qual</b> | <b>LCSD<br/>%Recovery</b> | <b>Qual</b> | <b>Acceptance<br/>Criteria</b> |
|-----------------------|--------------------------|-------------|---------------------------|-------------|--------------------------------|
| 1,2-Dichloroethane-d4 | 104                      |             | 105                       |             | 70-130                         |
| Toluene-d8            | 99                       |             | 99                        |             | 70-130                         |
| 4-Bromofluorobenzene  | 93                       |             | 94                        |             | 70-130                         |
| Dibromofluoromethane  | 106                      |             | 108                       |             | 70-130                         |

# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** COA Q4 GW

**Project Number:** 21010210

**Lab Number:** L2474265

**Report Date:** 12/24/24

| <b>Parameter</b>                                                                                     | <b>LCS<br/>%Recovery</b> | <b>Qual</b> | <b>LCSD<br/>%Recovery</b> | <b>Qual</b> | <b>%Recovery<br/>Limits</b> | <b>RPD</b> | <b>Qual</b> | <b>RPD<br/>Limits</b> |
|------------------------------------------------------------------------------------------------------|--------------------------|-------------|---------------------------|-------------|-----------------------------|------------|-------------|-----------------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG2013170-3 WG2013170-4 |                          |             |                           |             |                             |            |             |                       |
| Benzene                                                                                              | 94                       |             | 92                        |             | 70-130                      | 2          |             | 20                    |
| Toluene                                                                                              | 100                      |             | 100                       |             | 70-130                      | 0          |             | 20                    |
| Ethylbenzene                                                                                         | 100                      |             | 100                       |             | 70-130                      | 0          |             | 20                    |
| p/m-Xylene                                                                                           | 105                      |             | 105                       |             | 70-130                      | 0          |             | 20                    |
| o-Xylene                                                                                             | 105                      |             | 105                       |             | 70-130                      | 0          |             | 20                    |
| Naphthalene                                                                                          | 84                       |             | 96                        |             | 70-130                      | 13         |             | 20                    |

| <b>Surrogate</b>      | <b>LCS<br/>%Recovery</b> | <b>Qual</b> | <b>LCSD<br/>%Recovery</b> | <b>Qual</b> | <b>Acceptance<br/>Criteria</b> |
|-----------------------|--------------------------|-------------|---------------------------|-------------|--------------------------------|
| 1,2-Dichloroethane-d4 | 86                       |             | 86                        |             | 70-130                         |
| Toluene-d8            | 105                      |             | 107                       |             | 70-130                         |
| 4-Bromofluorobenzene  | 98                       |             | 104                       |             | 70-130                         |
| Dibromofluoromethane  | 99                       |             | 96                        |             | 70-130                         |

**Project Name:** COA Q4 GW**Lab Number:** L2474265**Project Number:** 21010210**Report Date:** 12/24/24**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

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

A                                  Absent

**Container Information**

| <b>Container ID</b> | <b>Container Type</b> | <b>Cooler</b> | <b>Initial<br/>pH</b> | <b>Final<br/>pH</b> | <b>Temp<br/>deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen<br/>Date/Time</b> | <b>Analysis(*)</b> |
|---------------------|-----------------------|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|--------------------|
| L2474265-01A        | Vial HCl preserved    | A             | NA                    |                     | 3.0                   | Y           | Absent      |                             | PA-8260(14)        |
| L2474265-01B        | Vial HCl preserved    | A             | NA                    |                     | 3.0                   | Y           | Absent      |                             | PA-8260(14)        |
| L2474265-01C        | Vial HCl preserved    | A             | NA                    |                     | 3.0                   | Y           | Absent      |                             | PA-8260(14)        |
| L2474265-02A        | Vial HCl preserved    | A             | NA                    |                     | 3.0                   | Y           | Absent      |                             | PA-8260(14)        |
| L2474265-02B        | Vial HCl preserved    | A             | NA                    |                     | 3.0                   | Y           | Absent      |                             | PA-8260(14)        |
| L2474265-02C        | Vial HCl preserved    | A             | NA                    |                     | 3.0                   | Y           | Absent      |                             | PA-8260(14)        |
| L2474265-03A        | Vial HCl preserved    | A             | NA                    |                     | 3.0                   | Y           | Absent      |                             | PA-8260(14)        |
| L2474265-03B        | Vial HCl preserved    | A             | NA                    |                     | 3.0                   | Y           | Absent      |                             | PA-8260(14)        |
| L2474265-03C        | Vial HCl preserved    | A             | NA                    |                     | 3.0                   | Y           | Absent      |                             | PA-8260(14)        |
| L2474265-04A        | Vial HCl preserved    | A             | NA                    |                     | 3.0                   | Y           | Absent      |                             | PA-8260(14)        |
| L2474265-04B        | Vial HCl preserved    | A             | NA                    |                     | 3.0                   | Y           | Absent      |                             | PA-8260(14)        |
| L2474265-04C        | Vial HCl preserved    | A             | NA                    |                     | 3.0                   | Y           | Absent      |                             | PA-8260(14)        |
| L2474265-05A        | Vial HCl preserved    | A             | NA                    |                     | 3.0                   | Y           | Absent      |                             | PA-8260(14)        |
| L2474265-05B        | Vial HCl preserved    | A             | NA                    |                     | 3.0                   | Y           | Absent      |                             | PA-8260(14)        |
| L2474265-05C        | Vial HCl preserved    | A             | NA                    |                     | 3.0                   | Y           | Absent      |                             | PA-8260(14)        |
| L2474265-05D        | Vial HCl preserved    | A             | NA                    |                     | 3.0                   | Y           | Absent      |                             | PA-8260(14)        |

**Project Name:** COA Q4 GW  
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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.)<br><br>Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                          |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.                                                                                                                                                                                                    |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NA       | - Not Applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.                                                                                                                                                                                                                                                                                                                                                                           |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| NI       | - Not Ignitable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NR       | - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.                                                                                                                                                                                                                                                                                                                                                                    |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.                                                                                                                                                                                                                                                                                                   |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.                                                                  |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.                                                                                                                                                                                                                                                                                                                                                                     |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TEF      | - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.                                                                                                                                                                                                                                                                                                                                                                                             |
| TEQ      | - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.                                                                                                                                                                                                                                                                                                                                                        |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.                                                                                                                                                                                                                                                                      |

Report Format: DU Report with 'J' Qualifiers



**Project Name:** COA Q4 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



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#### Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

- 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 Q4 GW**Lab Number:** L2474265**Project Number:** 21010210**Report Date:** 12/24/24

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

## LIMITATION OF LIABILITIES

Pace Analytical Services 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 Pace Analytical Services shall be to re-perform the work at it's own expense. In no event shall Pace Analytical Services 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 Pace Analytical Services.

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.





**Pace Analytical Services LLC**Facility: **Northeast**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**Revision **23**Published Date: **12/09/2024**Page **1** of **1****Certification Information**

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

**Westborough Facility – 8 Walkup Dr. Westborough, MA 01581****EPA 624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625.1:** alpha-Terpineol**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048****SM 2540D:** TSS.**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.

**Nonpotable Water:** **EPA RSK-175 Dissolved Gases****Biological Tissue Matrix:** EPA 3050B**Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048****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.

**Nonpotable Water:** **EPA RSK-175 Dissolved Gases**

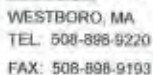
The following analytes are included in our Massachusetts DEP Scope of Accreditation

**Westborough Facility – 8 Walkup Dr. Westborough, MA 01581****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.****Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048****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 Project Manager.



## PAGE 1 OF 1

Date Rec'd in Lab: 12/17/24

|                   |                   |
|-------------------|-------------------|
| WESTBORO, MA      | MANSFIELD, MA     |
| TEL: 508-898-9220 | TEL: 508-822-9300 |
| FAX: 508-898-9193 | FAX: 508-822-3288 |

## Client Information

Client: TradePoint Atlantic  
Address: 6995 Betwheen Blvd  
Sparrows Point MD  
Phone:

Fax:

Email: J.Born@army.mil  
kgall@army.mil

☐ These samples have been previously analyzed by Alpha

## Other Project Specific Requirements/Comments/Detection Limits:

## Project Information

Project Name: COA GW 84

Project Location:

Project #: 210torle

Project Manager: Rob +

ALPHA Quote #

### Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-arranged!)

Date Due: \_\_\_\_\_ Time: \_\_\_\_\_

## Report Information - Data Deliverables

☐ FAX                      ☐ EMAIL  
☐ ADEx                    ☐ Add'l Deliverables

## Regulatory Requirements/Report Limits

| State /Fed Program | Criteria |
|--------------------|----------|
|--------------------|----------|

ANALYSIS

## SAMPLE HANDLING

*Filtration* \_\_\_\_\_  
☐ Done  
☐ Not needed  
☐ Lab to do  
*Preservation*  
☐ Lab to do  
 (Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

pH > 10  
pH > 10

|                |   |
|----------------|---|
| Container Type | V |
|----------------|---|

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.

FORM NO- 01-01 (rev. 14-OCT-07)

ADM Jernigan ADM  
Nelson & Force

121171241420

12-12-24 1850

12.17

Received By: *Nelson J. ...*

12-12-24

12/17/85

DEC 17 2024

Anthony Green 12/18 0115 ~~Green~~ 12/18 0115 ~~Green~~ 12/18/24 0500

11 January 2024

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 01/02/24 11:14.

Maryland Spectral Services, Inc. is a TNI 2016 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2016 TNI certified except as indicated at the end of this report. Please visit our website at [www.mdspectral.com](http://www.mdspectral.com) for a complete listing of our TNI 2016 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:  
01/11/24 10:42

| Client Sample ID | Alternate Sample ID | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|------------------|---------------------|---------------|--------|----------------|----------------|
| CELL 1 SVE INF   |                     | 4010204-01    | Vapor  | 01/02/24 07:43 | 01/02/24 11:14 |
| CELL 3 SVE INF   |                     | 4010204-02    | Vapor  | 01/02/24 08:10 | 01/02/24 11:14 |



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:  
01/11/24 10:42

### CELL 1 SVE INF

4010204-01 (Vapor)  
Sampled on: 01/02/24 07:43

| Analyte                                                                        | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |             |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| tert-Amyl alcohol (TAA)                                                        | ND          |       | ug/L  | 2.00                     | 2.00                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| tert-Amyl ethyl ether (TAAE)                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| tert-Amyl methyl ether (TAME)                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| <b>Benzene</b>                                                                 | <b>16.8</b> |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Bromobenzene                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Bromochloromethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Bromodichloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Bromoform                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Bromomethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| tert-Butanol (TBA)                                                             | ND          |       | ug/L  | 1.50                     | 1.50                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 2-Butanone (MEK)                                                               | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| n-Butylbenzene                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| sec-Butylbenzene                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| tert-Butylbenzene                                                              | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Carbon disulfide                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Carbon tetrachloride                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Chlorobenzene                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Chloroethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Chloroform                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Chloromethane                                                                  | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 2-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 4-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 1,2-Dibromo-3-chloropropane                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Dibromochloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 1,2-Dibromoethane (EDB)                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Dibromomethane                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 1,2-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 1,3-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 1,4-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Dichlorodifluoromethane                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 1,1-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 1,2-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | 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



**Project: SPARROWS POINT IM**

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
01/11/24 10:42

## Analytical Results

### CELL 1 SVE INF

4010204-01 (Vapor)

Sampled on: 01/02/24 07:43

| Analyte                                                                                    | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |             |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| cis-1,2-Dichloroethene                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| trans-1,2-Dichloroethene                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Dichlorofluoromethane                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 1,2-Dichloropropane                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 1,3-Dichloropropane                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 2,2-Dichloropropane                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 1,1-Dichloropropene                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| cis-1,3-Dichloropropene                                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| trans-1,3-Dichloropropene                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Diisopropyl ether (DIPE)                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Ethyl tert-butyl ether (ETBE)                                                              | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Ethylbenzene                                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Hexachlorobutadiene                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 2-Hexanone                                                                                 | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Isopropylbenzene (Cumene)                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 4-Isopropyltoluene                                                                         | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Methyl tert-butyl ether (MTBE)                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 4-Methyl-2-pentanone                                                                       | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Methylene chloride                                                                         | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Naphthalene                                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| n-Propylbenzene                                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Styrene                                                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 1,1,1,2-Tetrachloroethane                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 1,1,2,2-Tetrachloroethane                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Tetrachloroethene                                                                          | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| <b>Toluene</b>                                                                             | <b>0.48</b> |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 1,2,3-Trichlorobenzene                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 1,2,4-Trichlorobenzene                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 1,1,1-Trichloroethane                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| 1,1,2-Trichloroethane                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Trichloroethene                                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | LL      |
| Trichlorofluoromethane (Freon 11)                                                          | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:24 | 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:  
01/11/24 10:42

### CELL 1 SVE INF

4010204-01 (Vapor)  
Sampled on: 01/02/24 07:43

| Analyte                                                                                    | Result | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24       | 01/02/24 13:24 | LL      |
| 1,2,4-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24       | 01/02/24 13:24 | LL      |
| 1,3,5-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24       | 01/02/24 13:24 | LL      |
| Vinyl chloride                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24       | 01/02/24 13:24 | LL      |
| o-Xylene                                                                                   | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24       | 01/02/24 13:24 | LL      |
| m- & p-Xylenes                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24       | 01/02/24 13:24 | LL      |
| Surrogate: 1,2-Dichloroethane-d4                                                           |        | 70-130 |       | 99 %                     | 01/02/24                 |          | 01/02/24 13:24 |                |         |
| Surrogate: Toluene-d8                                                                      |        | 75-120 |       | 95 %                     | 01/02/24                 |          | 01/02/24 13:24 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |        | 65-120 |       | 97 %                     | 01/02/24                 |          | 01/02/24 13:24 |                |         |



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:  
01/11/24 10:42

### CELL 3 SVE INF

4010204-02 (Vapor)

Sampled on: 01/02/24 08:10

| Analyte                                                                        | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |             |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| tert-Amyl alcohol (TAA)                                                        | ND          |       | ug/L  | 2.00                     | 2.00                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| tert-Amyl ethyl ether (TAAE)                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| tert-Amyl methyl ether (TAME)                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| <b>Benzene</b>                                                                 | <b>2.57</b> |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Bromobenzene                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Bromochloromethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Bromodichloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Bromoform                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Bromomethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| tert-Butanol (TBA)                                                             | ND          |       | ug/L  | 1.50                     | 1.50                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 2-Butanone (MEK)                                                               | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| n-Butylbenzene                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| sec-Butylbenzene                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| tert-Butylbenzene                                                              | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Carbon disulfide                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Carbon tetrachloride                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Chlorobenzene                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| <b>Chloroethane</b>                                                            | <b>0.70</b> |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Chloroform                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Chloromethane                                                                  | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 2-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 4-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 1,2-Dibromo-3-chloropropane                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Dibromochloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 1,2-Dibromoethane (EDB)                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Dibromomethane                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 1,2-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 1,3-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 1,4-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Dichlorodifluoromethane                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 1,1-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 1,2-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | 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:  
01/11/24 10:42

### CELL 3 SVE INF

4010204-02 (Vapor)

Sampled on: 01/02/24 08:10

| Analyte                                                                                    | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |             |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| cis-1,2-Dichloroethene                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| trans-1,2-Dichloroethene                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Dichlorofluoromethane                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 1,2-Dichloropropane                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 1,3-Dichloropropane                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 2,2-Dichloropropane                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 1,1-Dichloropropene                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| cis-1,3-Dichloropropene                                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| trans-1,3-Dichloropropene                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Diisopropyl ether (DIPE)                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Ethyl tert-butyl ether (ETBE)                                                              | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Ethylbenzene                                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Hexachlorobutadiene                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 2-Hexanone                                                                                 | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Isopropylbenzene (Cumene)                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 4-Isopropyltoluene                                                                         | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Methyl tert-butyl ether (MTBE)                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 4-Methyl-2-pentanone                                                                       | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Methylene chloride                                                                         | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Naphthalene                                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| n-Propylbenzene                                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Styrene                                                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 1,1,1,2-Tetrachloroethane                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 1,1,2,2-Tetrachloroethane                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Tetrachloroethene                                                                          | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| <b>Toluene</b>                                                                             | <b>0.20</b> |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 1,2,3-Trichlorobenzene                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 1,2,4-Trichlorobenzene                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 1,1,1-Trichloroethane                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| 1,1,2-Trichloroethane                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Trichloroethene                                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | LL      |
| Trichlorofluoromethane (Freon 11)                                                          | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24 | 01/02/24 13:48 | 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:  
01/11/24 10:42

### CELL 3 SVE INF

4010204-02 (Vapor)

Sampled on: 01/02/24 08:10

| Analyte                                                                                    | Result | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24       | 01/02/24 13:48 | LL      |
| 1,2,4-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24       | 01/02/24 13:48 | LL      |
| 1,3,5-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24       | 01/02/24 13:48 | LL      |
| Vinyl chloride                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24       | 01/02/24 13:48 | LL      |
| o-Xylene                                                                                   | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24       | 01/02/24 13:48 | LL      |
| m- & p-Xylenes                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 01/02/24       | 01/02/24 13:48 | LL      |
| Surrogate: 1,2-Dichloroethane-d4                                                           |        | 70-130 |       | 104 %                    | 01/02/24                 |          | 01/02/24 13:48 |                |         |
| Surrogate: Toluene-d8                                                                      |        | 75-120 |       | 94 %                     | 01/02/24                 |          | 01/02/24 13:48 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |        | 65-120 |       | 98 %                     | 01/02/24                 |          | 01/02/24 13:48 |                |         |

Will Brewington, President

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
01/11/24 10:42

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

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:  
01/11/24 10:42

### 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 Tworowski

Reported:  
01/11/24 10:42

### Notes and Definitions

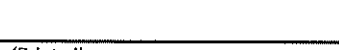
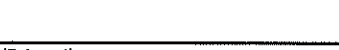
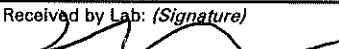
|          |                                                                                                                                                                               |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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:<br>Tradepoint Atlantic                                                                                                                                                                                                           |        | Company Address:<br>6995 Bethlehem Blvd, Suite 100<br>Baltimore, MD 21219                                                                                                                                        |    | Analysis Requested<br><br>FULL SUITE VOCs +<br>NAPHTHALENE 8260                                                     |      |                                                                                                                                                                                                                                                                                                                                      |                   |                                                                                                                                                    |  |                                                                                                                   |  |                 |  | <b>CHAIN-OF-CUSTODY RECORD</b>                                                                                                                             |  |  |  |              |             |              |
| Project Name:<br>Sparrows Point IM                                                                                                                                                                                                             |        | Project Manager:<br>Bob Tworkowski<br>(443) 649-5073                                                                                                                                                             |    |                                                                                                                     |      |                                                                                                                                                                                                                                                                                                                                      |                   |                                                                                                                                                    |  |                                                                                                                   |  |                 |  | Maryland Spectral Services, Inc.<br>1500 Caton Center Drive, Suite G<br>Baltimore, MD 21227<br>410-247-7600 • Fax 410-247-7602<br>reporting@mdspectral.com |  |  |  |              |             |              |
| Sampler(s):<br>Guy Davis/ARM Group<br>(443) 610-0211                                                                                                                                                                                           |        | Attention/Invoice:<br>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 /NF                                                                                                                                                                                                                                 | 1/2/24 | 0745                                                                                                                                                                                                             |    |                                                                                                                     |      | X                                                                                                                                                                                                                                                                                                                                    | 1                 |                                                                                                                                                    |  |                                                                                                                   |  |                 |  |                                                                                                                                                            |  |  |  |              |             | 4010204-01 A |
| CELL 3 SVE /NF                                                                                                                                                                                                                                 | 1/2/24 | 0810                                                                                                                                                                                                             |    |                                                                                                                     |      | X                                                                                                                                                                                                                                                                                                                                    | 1                 |                                                                                                                                                    |  |                                                                                                                   |  |                 |  |                                                                                                                                                            |  |  |  |              |             | - 02         |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                  |    |                                                                                                                     |      |                                                                                                                                                                                                                                                                                                                                      |                   |                                                                                                                                                    |  |                                                                                                                   |  |                 |  |                                                                                                                                                            |  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                  |    |                                                                                                                     |      |                                                                                                                                                                                                                                                                                                                                      |                   |                                                                                                                                                    |  |                                                                                                                   |  |                 |  |                                                                                                                                                            |  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                  |    |                                                                                                                     |      |                                                                                                                                                                                                                                                                                                                                      |                   |                                                                                                                                                    |  |                                                                                                                   |  |                 |  |                                                                                                                                                            |  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                  |    |                                                                                                                     |      |                                                                                                                                                                                                                                                                                                                                      |                   |                                                                                                                                                    |  |                                                                                                                   |  |                 |  |                                                                                                                                                            |  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                  |    |                                                                                                                     |      |                                                                                                                                                                                                                                                                                                                                      |                   |                                                                                                                                                    |  |                                                                                                                   |  |                 |  |                                                                                                                                                            |  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                  |    |                                                                                                                     |      |                                                                                                                                                                                                                                                                                                                                      |                   |                                                                                                                                                    |  |                                                                                                                   |  |                 |  |                                                                                                                                                            |  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                  |    |                                                                                                                     |      |                                                                                                                                                                                                                                                                                                                                      |                   |                                                                                                                                                    |  |                                                                                                                   |  |                 |  |                                                                                                                                                            |  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                  |    |                                                                                                                     |      |                                                                                                                                                                                                                                                                                                                                      |                   |                                                                                                                                                    |  |                                                                                                                   |  |                 |  |                                                                                                                                                            |  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                  |    |                                                                                                                     |      |                                                                                                                                                                                                                                                                                                                                      |                   |                                                                                                                                                    |  |                                                                                                                   |  |                 |  |                                                                                                                                                            |  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                  |    |                                                                                                                     |      |                                                                                                                                                                                                                                                                                                                                      |                   |                                                                                                                                                    |  |                                                                                                                   |  |                 |  |                                                                                                                                                            |  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                  |    |                                                                                                                     |      |                                                                                                                                                                                                                                                                                                                                      |                   |                                                                                                                                                    |  |                                                                                                                   |  |                 |  |                                                                                                                                                            |  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                  |    |                                                                                                                     |      |                                                                                                                                                                                                                                                                                                                                      |                   |                                                                                                                                                    |  |                                                                                                                   |  |                 |  |                                                                                                                                                            |  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                  |    |                                                                                                                     |      |                                                                                                                                                                                                                                                                                                                                      |                   |                                                                                                                                                    |  |                                                                                                                   |  |                 |  |                                                                                                                                                            |  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                  |    |                                                                                                                     |      |                                                                                                                                                                                                                                                                                                                                      |                   |                                                                                                                                                    |  |                                                                                                                   |  |                 |  |                                                                                                                                                            |  |  |  |              |             |              |
| Relinquished by: (Signature)<br>                                                                                                                             |        | Date/Time<br>1/2/24/ 11:15                                                                                                                                                                                       |    | Received by: (Signature)<br>     |      | Relinquished by: (Signature)<br>                                                                                                                                                                                                                |                   | Date/Time                                                                                                                                          |  | Received by: (Signature)<br> |  | Date/Time       |  | Received by: (Signature)<br>                                          |  |  |  |              |             |              |
| (Printed)<br>Guy L Davis                                                                                                                                                                                                                       |        |                                                                                                                                                                                                                  |    | (Printed)                                                                                                           |      | (Printed)                                                                                                                                                                                                                                                                                                                            |                   |                                                                                                                                                    |  | (Printed)                                                                                                         |  |                 |  | (Printed)                                                                                                                                                  |  |  |  |              |             |              |
| Relinquished by: (Signature)<br>                                                                                                                             |        | Date/Time<br>1-2-24 11:14                                                                                                                                                                                        |    | Received by Lab: (Signature)<br> |      | Turn Around Time:                                                                                                                                                                                                                                                                                                                    |                   | Lab Use:                                                                                                                                           |  | Temp: ____ °C                                                                                                     |  | Received on Ice |  | Received same day                                                                                                                                          |  |  |  |              |             |              |
| (Printed)                                                                                                                                                                                                                                      |        |                                                                                                                                                                                                                  |    | (Printed)<br>Lori Foster                                                                                            |      | <input checked="" type="checkbox"/> Normal (7 day)<br><input type="checkbox"/> 5 day<br><input type="checkbox"/> 4 day<br><input type="checkbox"/> 3 day<br><input type="checkbox"/> Rush (2 day)<br><input type="checkbox"/> Next Day<br><input type="checkbox"/> Other: _____<br><input type="checkbox"/> Specific Due Date: _____ |                   | <input type="checkbox"/> Return to Client<br><input checked="" type="checkbox"/> Disposal by lab<br><input type="checkbox"/> Archive for ____ days |  |                                                                                                                   |  |                 |  |                                                                                                                                                            |  |  |  |              |             |              |
| Delivery Method:<br><input checked="" type="checkbox"/> Courier<br><input type="checkbox"/> Client<br><input type="checkbox"/> UPS<br><input type="checkbox"/> FedEx<br><input type="checkbox"/> USPS<br><input type="checkbox"/> Other: _____ |        | Special Instructions/QC Requirements & Comments:<br>Please report to:<br>Bob Tworkowski    btworkowski@tradepointatlantic.com<br>Guy Davis        GDavis@armgroup.net<br>Doug Hamilton    DHamilton@armgroup.net |    |                                                                                                                     |      |                                                                                                                                                                                                                                                                                                                                      |                   |                                                                                                                                                    |  |                                                                                                                   |  |                 |  |                                                                                                                                                            |  |  |  |              |             |              |

16 January 2024

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 01/10/24 12:03.

Maryland Spectral Services, Inc. is a TNI 2016 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2016 TNI certified except as indicated at the end of this report. Please visit our website at [www.mdspectral.com](http://www.mdspectral.com) for a complete listing of our TNI 2016 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:  
01/16/24 15:54

| Client Sample ID | Alternate Sample ID | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|------------------|---------------------|---------------|--------|----------------|----------------|
| CELL 1 SVE INF   |                     | 4011008-01    | Vapor  | 01/10/24 10:15 | 01/10/24 12:03 |



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.*



**Project: SPARROWS POINT IM**

Project Number: [none]  
Project Manager: Bob Tworowski

Reported:  
01/16/24 15:54

## Analytical Results

### CELL 1 SVE INF

**4011008-01 (Vapor)**

**Sampled on: 01/10/24 10:15**

| Analyte                                                                        | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |             |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | ND          |       | ug/L  | 2.50                     | 2.50                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| tert-Amyl alcohol (TAA)                                                        | ND          |       | ug/L  | 5.00                     | 5.00                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| tert-Amyl ethyl ether (TAAE)                                                   | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| tert-Amyl methyl ether (TAME)                                                  | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| <b>Benzene</b>                                                                 | <b>41.0</b> |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Bromobenzene                                                                   | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Bromochloromethane                                                             | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Bromodichloromethane                                                           | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Bromoform                                                                      | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Bromomethane                                                                   | ND          |       | ug/L  | 1.25                     | 1.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| tert-Butanol (TBA)                                                             | ND          |       | ug/L  | 3.75                     | 3.75                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 2-Butanone (MEK)                                                               | ND          |       | ug/L  | 2.50                     | 2.50                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| n-Butylbenzene                                                                 | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| sec-Butylbenzene                                                               | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| tert-Butylbenzene                                                              | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Carbon disulfide                                                               | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Carbon tetrachloride                                                           | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Chlorobenzene                                                                  | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Chloroethane                                                                   | ND          |       | ug/L  | 1.25                     | 1.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Chloroform                                                                     | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Chloromethane                                                                  | ND          |       | ug/L  | 1.25                     | 1.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 2-Chlorotoluene                                                                | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 4-Chlorotoluene                                                                | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 1,2-Dibromo-3-chloropropane                                                    | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Dibromochloromethane                                                           | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 1,2-Dibromoethane (EDB)                                                        | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Dibromomethane                                                                 | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 1,2-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 1,3-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 1,4-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Dichlorodifluoromethane                                                        | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 1,1-Dichloroethane                                                             | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 1,2-Dichloroethane                                                             | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | 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

**Project: SPARROWS POINT IM**

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
01/16/24 15:54

## Analytical Results

### CELL 1 SVE INF

4011008-01 (Vapor)

Sampled on: 01/10/24 10:15

| Analyte                                                                                    | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |             |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| cis-1,2-Dichloroethene                                                                     | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| trans-1,2-Dichloroethene                                                                   | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Dichlorofluoromethane                                                                      | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 1,2-Dichloropropane                                                                        | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 1,3-Dichloropropane                                                                        | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 2,2-Dichloropropane                                                                        | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 1,1-Dichloropropene                                                                        | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| cis-1,3-Dichloropropene                                                                    | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| trans-1,3-Dichloropropene                                                                  | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Diisopropyl ether (DIPE)                                                                   | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Ethyl tert-butyl ether (ETBE)                                                              | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Ethylbenzene                                                                               | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Hexachlorobutadiene                                                                        | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 2-Hexanone                                                                                 | ND          |       | ug/L  | 2.50                     | 2.50                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Isopropylbenzene (Cumene)                                                                  | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 4-Isopropyltoluene                                                                         | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Methyl tert-butyl ether (MTBE)                                                             | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 4-Methyl-2-pentanone                                                                       | ND          |       | ug/L  | 2.50                     | 2.50                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Methylene chloride                                                                         | ND          |       | ug/L  | 2.50                     | 2.50                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Naphthalene                                                                                | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| n-Propylbenzene                                                                            | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Styrene                                                                                    | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 1,1,1,2-Tetrachloroethane                                                                  | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 1,1,2,2-Tetrachloroethane                                                                  | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Tetrachloroethene                                                                          | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| <b>Toluene</b>                                                                             | <b>1.78</b> |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 1,2,3-Trichlorobenzene                                                                     | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 1,2,4-Trichlorobenzene                                                                     | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 1,1,1-Trichloroethane                                                                      | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| 1,1,2-Trichloroethane                                                                      | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Trichloroethene                                                                            | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | LL      |
| Trichlorofluoromethane (Freon 11)                                                          | ND          |       | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24 | 01/11/24 14:10 | 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:  
01/16/24 15:54

### CELL 1 SVE INF

4011008-01 (Vapor)

Sampled on: 01/10/24 10:15

| Analyte                                                                                    | Result | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND     |        | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24       | 01/11/24 14:10 | LL      |
| 1,2,4-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24       | 01/11/24 14:10 | LL      |
| 1,3,5-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24       | 01/11/24 14:10 | LL      |
| Vinyl chloride                                                                             | ND     |        | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24       | 01/11/24 14:10 | LL      |
| o-Xylene                                                                                   | ND     |        | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24       | 01/11/24 14:10 | LL      |
| m- & p-Xylenes                                                                             | ND     |        | ug/L  | 0.50                     | 0.25                     | 0.25     | 01/11/24       | 01/11/24 14:10 | LL      |
| Surrogate: 1,2-Dichloroethane-d4                                                           |        | 70-130 |       | 106 %                    | 01/11/24                 |          | 01/11/24 14:10 |                |         |
| Surrogate: Toluene-d8                                                                      |        | 75-120 |       | 98 %                     | 01/11/24                 |          | 01/11/24 14:10 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |        | 65-120 |       | 101 %                    | 01/11/24                 |          | 01/11/24 14:10 |                |         |



Will Brewington, President

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
01/16/24 15:54

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

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:  
01/16/24 15:54

### 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 Tworowski

Reported:  
01/16/24 15:54

### 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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13 February 2024

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 02/07/24 11:49.

Maryland Spectral Services, Inc. is a TNI 2016 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2016 TNI certified except as indicated at the end of this report. Please visit our website at [www.mdspectral.com](http://www.mdspectral.com) for a complete listing of our TNI 2016 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:  
02/13/24 09:34

| Client Sample ID | Alternate Sample ID | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|------------------|---------------------|---------------|--------|----------------|----------------|
| CELL 1 SVE INF   |                     | 4020707-01    | Vapor  | 02/07/24 09:15 | 02/07/24 11:49 |
| CELL 3 SVE INF   |                     | 4020707-02    | Vapor  | 02/07/24 09:40 | 02/07/24 11:49 |



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.*

**Project: SPARROWS POINT IM**

Project Number: [none]  
Project Manager: Bob Tworowski

Reported:  
02/13/24 09:34

## Analytical Results

### CELL 1 SVE INF

4020707-01 (Vapor)

Sampled on: 02/07/24 09:15

| Analyte                                                                        | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |             |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| tert-Amyl alcohol (TAA)                                                        | ND          |       | ug/L  | 2.00                     | 2.00                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| tert-Amyl ethyl ether (TAAE)                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| tert-Amyl methyl ether (TAME)                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| <b>Benzene</b>                                                                 | <b>4.80</b> |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Bromobenzene                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Bromochloromethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Bromodichloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Bromoform                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Bromomethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| tert-Butanol (TBA)                                                             | ND          |       | ug/L  | 1.50                     | 1.50                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 2-Butanone (MEK)                                                               | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| n-Butylbenzene                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| sec-Butylbenzene                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| tert-Butylbenzene                                                              | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Carbon disulfide                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Carbon tetrachloride                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Chlorobenzene                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Chloroethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Chloroform                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Chloromethane                                                                  | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 2-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 4-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 1,2-Dibromo-3-chloropropane                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Dibromochloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 1,2-Dibromoethane (EDB)                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Dibromomethane                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 1,2-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 1,3-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 1,4-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Dichlorodifluoromethane                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 1,1-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 1,2-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | 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:  
02/13/24 09:34

### CELL 1 SVE INF

4020707-01 (Vapor)  
Sampled on: 02/07/24 09:15

| Analyte                                                                                    | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| cis-1,2-Dichloroethene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| trans-1,2-Dichloroethene                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Dichlorofluoromethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 1,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 1,3-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 2,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 1,1-Dichloropropene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| cis-1,3-Dichloropropene                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| trans-1,3-Dichloropropene                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Diisopropyl ether (DIPE)                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Ethyl tert-butyl ether (ETBE)                                                              | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Ethylbenzene                                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Hexachlorobutadiene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 2-Hexanone                                                                                 | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Isopropylbenzene (Cumene)                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 4-Isopropyltoluene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Methyl tert-butyl ether (MTBE)                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 4-Methyl-2-pentanone                                                                       | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Methylene chloride                                                                         | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Naphthalene                                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| n-Propylbenzene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Styrene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 1,1,1,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 1,1,2,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Tetrachloroethene                                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Toluene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 1,2,3-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 1,2,4-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 1,1,1-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| 1,1,2-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Trichloroethene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | LL      |
| Trichlorofluoromethane (Freon 11)                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 15:40 | 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:  
02/13/24 09:34

### CELL 1 SVE INF

4020707-01 (Vapor)

Sampled on: 02/07/24 09:15

| Analyte                                                                                    | Result | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24       | 02/07/24 15:40 | LL      |
| 1,2,4-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24       | 02/07/24 15:40 | LL      |
| 1,3,5-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24       | 02/07/24 15:40 | LL      |
| Vinyl chloride                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24       | 02/07/24 15:40 | LL      |
| o-Xylene                                                                                   | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24       | 02/07/24 15:40 | LL      |
| m- & p-Xylenes                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24       | 02/07/24 15:40 | LL      |
| Surrogate: 1,2-Dichloroethane-d4                                                           |        | 70-130 |       | 106 %                    | 02/07/24                 |          | 02/07/24 15:40 |                |         |
| Surrogate: Toluene-d8                                                                      |        | 75-120 |       | 97 %                     | 02/07/24                 |          | 02/07/24 15:40 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |        | 65-120 |       | 101 %                    | 02/07/24                 |          | 02/07/24 15:40 |                |         |



Will Brewington, President

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**Project: SPARROWS POINT IM**

Project Number: [none]  
Project Manager: Bob Tworowski

Reported:  
02/13/24 09:34

## Analytical Results

### CELL 3 SVE INF

4020707-02 (Vapor)

Sampled on: 02/07/24 09:40

| Analyte                                                                        | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |             |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| tert-Amyl alcohol (TAA)                                                        | ND          |       | ug/L  | 2.00                     | 2.00                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| tert-Amyl ethyl ether (TAAE)                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| tert-Amyl methyl ether (TAME)                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| <b>Benzene</b>                                                                 | <b>0.25</b> |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Bromobenzene                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Bromochloromethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Bromodichloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Bromoform                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Bromomethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| tert-Butanol (TBA)                                                             | ND          |       | ug/L  | 1.50                     | 1.50                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 2-Butanone (MEK)                                                               | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| n-Butylbenzene                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| sec-Butylbenzene                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| tert-Butylbenzene                                                              | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Carbon disulfide                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Carbon tetrachloride                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Chlorobenzene                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Chloroethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Chloroform                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Chloromethane                                                                  | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 2-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 4-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 1,2-Dibromo-3-chloropropane                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Dibromochloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 1,2-Dibromoethane (EDB)                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Dibromomethane                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 1,2-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 1,3-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 1,4-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Dichlorodifluoromethane                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 1,1-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 1,2-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | 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

**Project: SPARROWS POINT IM**

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
02/13/24 09:34

## Analytical Results

### CELL 3 SVE INF

4020707-02 (Vapor)

Sampled on: 02/07/24 09:40

| Analyte                                                                                    | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| cis-1,2-Dichloroethene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| trans-1,2-Dichloroethene                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Dichlorofluoromethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 1,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 1,3-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 2,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 1,1-Dichloropropene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| cis-1,3-Dichloropropene                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| trans-1,3-Dichloropropene                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Diisopropyl ether (DIPE)                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Ethyl tert-butyl ether (ETBE)                                                              | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Ethylbenzene                                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Hexachlorobutadiene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 2-Hexanone                                                                                 | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Isopropylbenzene (Cumene)                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 4-Isopropyltoluene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Methyl tert-butyl ether (MTBE)                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 4-Methyl-2-pentanone                                                                       | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Methylene chloride                                                                         | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Naphthalene                                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| n-Propylbenzene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Styrene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 1,1,1,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 1,1,2,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Tetrachloroethene                                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Toluene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 1,2,3-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 1,2,4-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 1,1,1-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| 1,1,2-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Trichloroethene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | LL      |
| Trichlorofluoromethane (Freon 11)                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24 | 02/07/24 14:27 | 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:  
02/13/24 09:34

### CELL 3 SVE INF

4020707-02 (Vapor)

Sampled on: 02/07/24 09:40

| Analyte                                                                                    | Result | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24       | 02/07/24 14:27 | LL      |
| 1,2,4-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24       | 02/07/24 14:27 | LL      |
| 1,3,5-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24       | 02/07/24 14:27 | LL      |
| Vinyl chloride                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24       | 02/07/24 14:27 | LL      |
| o-Xylene                                                                                   | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24       | 02/07/24 14:27 | LL      |
| m- & p-Xylenes                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 02/07/24       | 02/07/24 14:27 | LL      |
| Surrogate: 1,2-Dichloroethane-d4                                                           |        | 70-130 |       | 109 %                    | 02/07/24                 |          | 02/07/24 14:27 |                |         |
| Surrogate: Toluene-d8                                                                      |        | 75-120 |       | 98 %                     | 02/07/24                 |          | 02/07/24 14:27 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |        | 65-120 |       | 99 %                     | 02/07/24                 |          | 02/07/24 14:27 |                |         |



Will Brewington, President

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworowski

Reported:  
02/13/24 09:34

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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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:  
02/13/24 09:34

### 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 Tworowski

### 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.*



12 March 2024

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 03/04/24 10:50.

Maryland Spectral Services, Inc. is a TNI 2016 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2016 TNI certified except as indicated at the end of this report. Please visit our website at [www.mdspectral.com](http://www.mdspectral.com) for a complete listing of our TNI 2016 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:  
03/12/24 11:18

| Client Sample ID | Alternate Sample ID | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|------------------|---------------------|---------------|--------|----------------|----------------|
| CELL 3 SVE INF   |                     | 4030404-01    | Vapor  | 03/04/24 06:55 | 03/04/24 10:50 |
| CELL 1 SVE INF   |                     | 4030404-02    | Vapor  | 03/04/24 07:55 | 03/04/24 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 Tworowski

Reported:  
03/12/24 11:18

### CELL 3 SVE INF

4030404-01 (Vapor)

Sampled on: 03/04/24 06:55

| Analyte                                                                        | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |             |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| tert-Amyl alcohol (TAA)                                                        | ND          |       | ug/L  | 2.00                     | 2.00                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| tert-Amyl ethyl ether (TAAE)                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| tert-Amyl methyl ether (TAME)                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| <b>Benzene</b>                                                                 | <b>0.63</b> |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Bromobenzene                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Bromochloromethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Bromodichloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Bromoform                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Bromomethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| tert-Butanol (TBA)                                                             | ND          |       | ug/L  | 1.50                     | 1.50                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 2-Butanone (MEK)                                                               | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| n-Butylbenzene                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| sec-Butylbenzene                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| tert-Butylbenzene                                                              | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Carbon disulfide                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Carbon tetrachloride                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Chlorobenzene                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| <b>Chloroethane</b>                                                            | <b>1.35</b> |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Chloroform                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Chloromethane                                                                  | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 2-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 4-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 1,2-Dibromo-3-chloropropane                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Dibromochloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 1,2-Dibromoethane (EDB)                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Dibromomethane                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 1,2-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 1,3-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 1,4-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Dichlorodifluoromethane                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 1,1-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 1,2-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |

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**Project: SPARROWS POINT IM**

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
03/12/24 11:18

## Analytical Results

### CELL 3 SVE INF

4030404-01 (Vapor)

Sampled on: 03/04/24 06:55

| Analyte                                                                                    | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| cis-1,2-Dichloroethene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| trans-1,2-Dichloroethene                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Dichlorofluoromethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 1,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 1,3-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 2,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 1,1-Dichloropropene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| cis-1,3-Dichloropropene                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| trans-1,3-Dichloropropene                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Diisopropyl ether (DIPE)                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Ethyl tert-butyl ether (ETBE)                                                              | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Ethylbenzene                                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Hexachlorobutadiene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 2-Hexanone                                                                                 | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Isopropylbenzene (Cumene)                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 4-Isopropyltoluene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Methyl tert-butyl ether (MTBE)                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 4-Methyl-2-pentanone                                                                       | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Methylene chloride                                                                         | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Naphthalene                                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| n-Propylbenzene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Styrene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 1,1,1,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 1,1,2,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Tetrachloroethene                                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Toluene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 1,2,3-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 1,2,4-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 1,1,1-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| 1,1,2-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Trichloroethene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |
| Trichlorofluoromethane (Freon 11)                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 14:29 | LL      |

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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:  
03/12/24 11:18

**CELL 3 SVE INF**

**4030404-01 (Vapor)**  
**Sampled on: 03/04/24 06:55**

| Analyte                                                                                    | Result | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24       | 03/04/24 14:29 | LL      |
| 1,2,4-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24       | 03/04/24 14:29 | LL      |
| 1,3,5-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24       | 03/04/24 14:29 | LL      |
| Vinyl chloride                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24       | 03/04/24 14:29 | LL      |
| o-Xylene                                                                                   | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24       | 03/04/24 14:29 | LL      |
| m- & p-Xylenes                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24       | 03/04/24 14:29 | LL      |
| Surrogate: 1,2-Dichloroethane-d4                                                           |        | 70-130 |       | 111 %                    | 03/04/24                 |          | 03/04/24 14:29 |                |         |
| Surrogate: Toluene-d8                                                                      |        | 75-120 |       | 97 %                     | 03/04/24                 |          | 03/04/24 14:29 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |        | 65-120 |       | 100 %                    | 03/04/24                 |          | 03/04/24 14:29 |                |         |



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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworowski

Reported:  
03/12/24 11:18

### CELL 1 SVE INF

4030404-02 (Vapor)

Sampled on: 03/04/24 07:55

| Analyte                                                                        | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |             |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| tert-Amyl alcohol (TAA)                                                        | ND          |       | ug/L  | 2.00                     | 2.00                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| tert-Amyl ethyl ether (TAAE)                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| tert-Amyl methyl ether (TAME)                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| <b>Benzene</b>                                                                 | <b>3.90</b> |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Bromobenzene                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Bromochloromethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Bromodichloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Bromoform                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Bromomethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| tert-Butanol (TBA)                                                             | ND          |       | ug/L  | 1.50                     | 1.50                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 2-Butanone (MEK)                                                               | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| n-Butylbenzene                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| sec-Butylbenzene                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| tert-Butylbenzene                                                              | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Carbon disulfide                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Carbon tetrachloride                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Chlorobenzene                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Chloroethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Chloroform                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Chloromethane                                                                  | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 2-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 4-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 1,2-Dibromo-3-chloropropane                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Dibromochloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 1,2-Dibromoethane (EDB)                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Dibromomethane                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 1,2-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 1,3-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 1,4-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Dichlorodifluoromethane                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 1,1-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 1,2-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
03/12/24 11:18

### CELL 1 SVE INF

4030404-02 (Vapor)

Sampled on: 03/04/24 07:55

| Analyte                                                                                    | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| cis-1,2-Dichloroethene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| trans-1,2-Dichloroethene                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Dichlorofluoromethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 1,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 1,3-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 2,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 1,1-Dichloropropene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| cis-1,3-Dichloropropene                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| trans-1,3-Dichloropropene                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Diisopropyl ether (DIPE)                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Ethyl tert-butyl ether (ETBE)                                                              | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Ethylbenzene                                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Hexachlorobutadiene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 2-Hexanone                                                                                 | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Isopropylbenzene (Cumene)                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 4-Isopropyltoluene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Methyl tert-butyl ether (MTBE)                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 4-Methyl-2-pentanone                                                                       | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Methylene chloride                                                                         | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Naphthalene                                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| n-Propylbenzene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Styrene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 1,1,1,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 1,1,2,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Tetrachloroethene                                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Toluene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 1,2,3-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 1,2,4-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 1,1,1-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| 1,1,2-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Trichloroethene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | LL      |
| Trichlorofluoromethane (Freon 11)                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24 | 03/04/24 15:08 | 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

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:  
03/12/24 11:18

**CELL 1 SVE INF**

**4030404-02 (Vapor)**

**Sampled on: 03/04/24 07:55**

| Analyte                                                                                    | Result | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24       | 03/04/24 15:08 | LL      |
| 1,2,4-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24       | 03/04/24 15:08 | LL      |
| 1,3,5-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24       | 03/04/24 15:08 | LL      |
| Vinyl chloride                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24       | 03/04/24 15:08 | LL      |
| o-Xylene                                                                                   | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24       | 03/04/24 15:08 | LL      |
| m- & p-Xylenes                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 03/04/24       | 03/04/24 15:08 | LL      |
| Surrogate: 1,2-Dichloroethane-d4                                                           |        | 70-130 |       | 108 %                    | 03/04/24                 |          | 03/04/24 15:08 |                |         |
| Surrogate: Toluene-d8                                                                      |        | 75-120 |       | 97 %                     | 03/04/24                 |          | 03/04/24 15:08 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |        | 65-120 |       | 100 %                    | 03/04/24                 |          | 03/04/24 15:08 |                |         |



Will Brewington, President

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
03/12/24 11:18

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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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:  
03/12/24 11:18

### 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 Tworowski

Reported:  
03/12/24 11:18

### 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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05 April 2024

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 04/03/24 10:18.

Maryland Spectral Services, Inc. is a TNI 2016 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2016 TNI certified except as indicated at the end of this report. Please visit our website at [www.mdspectral.com](http://www.mdspectral.com) for a complete listing of our TNI 2016 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:  
04/05/24 11:08

| Client Sample ID | Alternate Sample ID | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|------------------|---------------------|---------------|--------|----------------|----------------|
| CELL 3 SVE INF   |                     | 4040303-01    | Vapor  | 04/03/24 08:05 | 04/03/24 10:18 |
| CELL 1 SVE INF   |                     | 4040303-02    | Vapor  | 04/03/24 08:25 | 04/03/24 10:18 |



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:  
04/05/24 11:08

### CELL 3 SVE INF

4040303-01 (Vapor)

Sampled on: 04/03/24 08:05

| Analyte                                                                        | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |             |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| tert-Amyl alcohol (TAA)                                                        | ND          |       | ug/L  | 2.00                     | 2.00                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| tert-Amyl ethyl ether (TAAE)                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| tert-Amyl methyl ether (TAME)                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| <b>Benzene</b>                                                                 | <b>0.14</b> | J     | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Bromobenzene                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Bromochloromethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Bromodichloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Bromoform                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Bromomethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| tert-Butanol (TBA)                                                             | ND          |       | ug/L  | 1.50                     | 1.50                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 2-Butanone (MEK)                                                               | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| n-Butylbenzene                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| sec-Butylbenzene                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| tert-Butylbenzene                                                              | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Carbon disulfide                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Carbon tetrachloride                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Chlorobenzene                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| <b>Chloroethane</b>                                                            | <b>1.30</b> |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Chloroform                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Chloromethane                                                                  | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 2-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 4-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 1,2-Dibromo-3-chloropropane                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Dibromochloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 1,2-Dibromoethane (EDB)                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Dibromomethane                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 1,2-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 1,3-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 1,4-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Dichlorodifluoromethane                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 1,1-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 1,2-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |

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Will Brewington, President

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**Project: SPARROWS POINT IM**

Project Number: [none]  
Project Manager: Bob Tworowski

Reported:  
04/05/24 11:08

## Analytical Results

### CELL 3 SVE INF

4040303-01 (Vapor)

Sampled on: 04/03/24 08:05

| Analyte                                                                                    | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| cis-1,2-Dichloroethene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| trans-1,2-Dichloroethene                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Dichlorofluoromethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 1,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 1,3-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 2,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 1,1-Dichloropropene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| cis-1,3-Dichloropropene                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| trans-1,3-Dichloropropene                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Diisopropyl ether (DIPE)                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Ethyl tert-butyl ether (ETBE)                                                              | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Ethylbenzene                                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Hexachlorobutadiene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 2-Hexanone                                                                                 | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Isopropylbenzene (Cumene)                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 4-Isopropyltoluene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Methyl tert-butyl ether (MTBE)                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 4-Methyl-2-pentanone                                                                       | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Methylene chloride                                                                         | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Naphthalene                                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| n-Propylbenzene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Styrene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 1,1,1,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 1,1,2,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Tetrachloroethene                                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Toluene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 1,2,3-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 1,2,4-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 1,1,1-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| 1,1,2-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Trichloroethene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |
| Trichlorofluoromethane (Freon 11)                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24 | 04/03/24 14:20 | LL      |

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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:  
04/05/24 11:08

**CELL 3 SVE INF**

**4040303-01 (Vapor)**

**Sampled on: 04/03/24 08:05**

| Analyte                                                                                    | Result | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24       | 04/03/24 14:20 | LL      |
| 1,2,4-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24       | 04/03/24 14:20 | LL      |
| 1,3,5-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24       | 04/03/24 14:20 | LL      |
| Vinyl chloride                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24       | 04/03/24 14:20 | LL      |
| o-Xylene                                                                                   | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24       | 04/03/24 14:20 | LL      |
| m- & p-Xylenes                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 04/03/24       | 04/03/24 14:20 | LL      |
| Surrogate: 1,2-Dichloroethane-d4                                                           |        | 70-130 |       | 107 %                    | 04/03/24                 |          | 04/03/24 14:20 |                |         |
| Surrogate: Toluene-d8                                                                      |        | 75-120 |       | 101 %                    | 04/03/24                 |          | 04/03/24 14:20 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |        | 65-120 |       | 103 %                    | 04/03/24                 |          | 04/03/24 14:20 |                |         |



Will Brewington, President

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworowski

Reported:  
04/05/24 11:08

### CELL 1 SVE INF

4040303-02 (Vapor)

Sampled on: 04/03/24 08:25

| Analyte                                                                        | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |             |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | ND          |       | ug/L  | 5.00                     | 5.00                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| tert-Amyl alcohol (TAA)                                                        | ND          |       | ug/L  | 10.0                     | 10.0                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| tert-Amyl ethyl ether (TAAE)                                                   | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| tert-Amyl methyl ether (TAME)                                                  | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| <b>Benzene</b>                                                                 | <b>40.8</b> |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Bromobenzene                                                                   | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Bromochloromethane                                                             | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Bromodichloromethane                                                           | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Bromoform                                                                      | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Bromomethane                                                                   | ND          |       | ug/L  | 2.50                     | 2.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| tert-Butanol (TBA)                                                             | ND          |       | ug/L  | 7.50                     | 7.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 2-Butanone (MEK)                                                               | ND          |       | ug/L  | 5.00                     | 5.00                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| n-Butylbenzene                                                                 | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| sec-Butylbenzene                                                               | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| tert-Butylbenzene                                                              | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Carbon disulfide                                                               | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Carbon tetrachloride                                                           | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Chlorobenzene                                                                  | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Chloroethane                                                                   | ND          |       | ug/L  | 2.50                     | 2.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Chloroform                                                                     | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Chloromethane                                                                  | ND          |       | ug/L  | 2.50                     | 2.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 2-Chlorotoluene                                                                | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 4-Chlorotoluene                                                                | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 1,2-Dibromo-3-chloropropane                                                    | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Dibromochloromethane                                                           | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 1,2-Dibromoethane (EDB)                                                        | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Dibromomethane                                                                 | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 1,2-Dichlorobenzene                                                            | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 1,3-Dichlorobenzene                                                            | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 1,4-Dichlorobenzene                                                            | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Dichlorodifluoromethane                                                        | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 1,1-Dichloroethane                                                             | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 1,2-Dichloroethane                                                             | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworowski

Reported:  
04/05/24 11:08

### CELL 1 SVE INF

4040303-02 (Vapor)

Sampled on: 04/03/24 08:25

| Analyte                                                                                    | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |             |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| cis-1,2-Dichloroethene                                                                     | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| trans-1,2-Dichloroethene                                                                   | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Dichlorofluoromethane                                                                      | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 1,2-Dichloropropane                                                                        | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 1,3-Dichloropropane                                                                        | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 2,2-Dichloropropane                                                                        | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 1,1-Dichloropropene                                                                        | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| cis-1,3-Dichloropropene                                                                    | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| trans-1,3-Dichloropropene                                                                  | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Diisopropyl ether (DIPE)                                                                   | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Ethyl tert-butyl ether (ETBE)                                                              | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Ethylbenzene                                                                               | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Hexachlorobutadiene                                                                        | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 2-Hexanone                                                                                 | ND          |       | ug/L  | 5.00                     | 5.00                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Isopropylbenzene (Cumene)                                                                  | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 4-Isopropyltoluene                                                                         | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Methyl tert-butyl ether (MTBE)                                                             | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 4-Methyl-2-pentanone                                                                       | ND          |       | ug/L  | 5.00                     | 5.00                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Methylene chloride                                                                         | ND          |       | ug/L  | 5.00                     | 5.00                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Naphthalene                                                                                | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| n-Propylbenzene                                                                            | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Styrene                                                                                    | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 1,1,1,2-Tetrachloroethane                                                                  | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 1,1,2,2-Tetrachloroethane                                                                  | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Tetrachloroethene                                                                          | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| <b>Toluene</b>                                                                             | <b>1.17</b> |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 1,2,3-Trichlorobenzene                                                                     | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 1,2,4-Trichlorobenzene                                                                     | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 1,1,1-Trichloroethane                                                                      | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| 1,1,2-Trichloroethane                                                                      | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Trichloroethene                                                                            | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |
| Trichlorofluoromethane (Freon 11)                                                          | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24 | 04/03/24 15:11 | LL      |

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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:  
04/05/24 11:08

**CELL 1 SVE INF**

**4040303-02 (Vapor)**

**Sampled on: 04/03/24 08:25**

| Analyte                                                                                    | Result | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND     |        | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24       | 04/03/24 15:11 | LL      |
| 1,2,4-Trimethylbenzene                                                                     | ND     |        | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24       | 04/03/24 15:11 | LL      |
| 1,3,5-Trimethylbenzene                                                                     | ND     |        | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24       | 04/03/24 15:11 | LL      |
| Vinyl chloride                                                                             | ND     |        | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24       | 04/03/24 15:11 | LL      |
| o-Xylene                                                                                   | ND     |        | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24       | 04/03/24 15:11 | LL      |
| m- & p-Xylenes                                                                             | ND     |        | ug/L  | 1.00                     | 0.50                     | 0.5      | 04/03/24       | 04/03/24 15:11 | LL      |
| Surrogate: 1,2-Dichloroethane-d4                                                           |        | 70-130 |       | 106 %                    | 04/03/24                 |          | 04/03/24 15:11 |                |         |
| Surrogate: Toluene-d8                                                                      |        | 75-120 |       | 102 %                    | 04/03/24                 |          | 04/03/24 15:11 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |        | 65-120 |       | 102 %                    | 04/03/24                 |          | 04/03/24 15:11 |                |         |

Will Brewington, President

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
04/05/24 11:08

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 (TAE)    | 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

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:  
04/05/24 11:08

### 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 Tworowski

Reported:

04/05/24 11:08

### Notes and Definitions

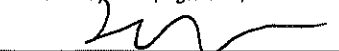
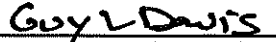
|          |                                                                                                                                                                               |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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:<br>Tradepoint Atlantic                                                                                                                                                                                                           |        | Company Address:<br>6995 Bethlehem Blvd, Suite 100<br>Baltimore, MD 21219                                                                                                                                                                                                                                                                       |    | Analysis Requested                                                                                               |      |                                                                                                                     |                   |                                       |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                         |  | <b>CHAIN-OF-CUSTODY RECORD</b><br><br>Maryland Spectral Services, Inc.<br>1500 Caton Center Drive, Suite G<br>Baltimore, MD 21227<br>410-247-7600 • Fax 410-247-7602<br>reporting@mdspectral.com |  |  |  |  |              |             |              |
| Project Name:<br>Sparrows Point IM                                                                                                                                                                                                             |        | Project Manager:<br>Bob Tworowski<br>(443) 649-5073                                                                                                                                                                                                                                                                                             |    |                                                                                                                  |      |                                                                                                                     |                   |                                       |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                         |  |                                                                                                                                                                                                  |  |  |  |  |              |             |              |
| Sampler(s):<br>Guy Davis/ARM Group<br>(443) 610-0211                                                                                                                                                                                           |        | Attention/Invoice:<br><a href="mailto:ap@tradepointatlantic.com">ap@tradepointatlantic.com</a>                                                                                                                                                                                                                                                  |    |                                                                                                                  |      |                                                                                                                     |                   |                                       |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                         |  |                                                                                                                                                                                                  |  |  |  |  |              |             |              |
| Field Sample ID                                                                                                                                                                                                                                | Date   | Time                                                                                                                                                                                                                                                                                                                                            | DW | Water                                                                                                            | Soil | SV                                                                                                                  | No. of Containers | FULL SUITE VOCs +<br>NAPHTHALENE 8260 |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                         |  |                                                                                                                                                                                                  |  |  |  |  | Preservative | Field Notes | MSS Lab ID   |
| CELL 3 SVE INF                                                                                                                                                                                                                                 | 4/3/24 | 0805                                                                                                                                                                                                                                                                                                                                            |    |                                                                                                                  |      | <input checked="" type="checkbox"/>                                                                                 | 1                 | <input checked="" type="checkbox"/>   |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                         |  |                                                                                                                                                                                                  |  |  |  |  |              |             | 4040303-01 A |
| CELL 1 SVE INF                                                                                                                                                                                                                                 | 4/3/24 | 0825                                                                                                                                                                                                                                                                                                                                            |    |                                                                                                                  |      | <input checked="" type="checkbox"/>                                                                                 | 1                 | <input checked="" type="checkbox"/>   |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                         |  |                                                                                                                                                                                                  |  |  |  |  |              |             | - 02         |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                                                                                                                                                 |    |                                                                                                                  |      |                                                                                                                     |                   |                                       |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                         |  |                                                                                                                                                                                                  |  |  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                                                                                                                                                 |    |                                                                                                                  |      |                                                                                                                     |                   |                                       |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                         |  |                                                                                                                                                                                                  |  |  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                                                                                                                                                 |    |                                                                                                                  |      |                                                                                                                     |                   |                                       |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                         |  |                                                                                                                                                                                                  |  |  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                                                                                                                                                 |    |                                                                                                                  |      |                                                                                                                     |                   |                                       |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                         |  |                                                                                                                                                                                                  |  |  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                                                                                                                                                 |    |                                                                                                                  |      |                                                                                                                     |                   |                                       |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                         |  |                                                                                                                                                                                                  |  |  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                                                                                                                                                 |    |                                                                                                                  |      |                                                                                                                     |                   |                                       |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                         |  |                                                                                                                                                                                                  |  |  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                                                                                                                                                 |    |                                                                                                                  |      |                                                                                                                     |                   |                                       |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                         |  |                                                                                                                                                                                                  |  |  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                                                                                                                                                 |    |                                                                                                                  |      |                                                                                                                     |                   |                                       |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                         |  |                                                                                                                                                                                                  |  |  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |        |                                                                                                                                                                                                                                                                                                                                                 |    |                                                                                                                  |      |                                                                                                                     |                   |                                       |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                         |  |                                                                                                                                                                                                  |  |  |  |  |              |             |              |
| Relinquished by: (Signature)<br>                                                                                                                            |        | Date/Time<br>4/3/24/1020                                                                                                                                                                                                                                                                                                                        |    | Received by: (Signature)<br> |      | Relinquished by: (Signature)<br> |                   | Date/Time<br>4-3-24<br>10:18          |  | Turn Around Time:<br><input checked="" type="checkbox"/> Normal (7 day)<br><input type="checkbox"/> 5 day<br><input type="checkbox"/> 4 day<br><input type="checkbox"/> 3 day<br><input type="checkbox"/> Rush (2 day)<br><input type="checkbox"/> Next Day<br><input type="checkbox"/> Other: _____<br><input type="checkbox"/> Specific Due Date: _____ |  | Lab Use:<br>Temp: _____ °C<br><input type="checkbox"/> Received on Ice<br><input checked="" type="checkbox"/> Received same day                                         |  |                                                                                                                                                                                                  |  |  |  |  |              |             |              |
| (Printed)<br>Guy L Davis                                                                                                                                                                                                                       |        |                                                                                                                                                                                                                                                                                                                                                 |    | (Printed)<br>Lori Foster                                                                                         |      | (Printed)<br>Guy L Davis                                                                                            |                   |                                       |  |                                                                                                                                                                                                                                                                                                                                                           |  | (Printed)<br>                                                                                                                                                           |  |                                                                                                                                                                                                  |  |  |  |  |              |             |              |
| Delivery Method:<br><input checked="" type="checkbox"/> Courier<br><input type="checkbox"/> Client<br><input type="checkbox"/> UPS<br><input type="checkbox"/> FedEx<br><input type="checkbox"/> USPS<br><input type="checkbox"/> Other: _____ |        | Special Instructions/QC Requirements & Comments:<br>Please report to:<br>Bob Tworowski <a href="mailto:btworkowski@tradepointatlantic.com">btworkowski@tradepointatlantic.com</a><br>Guy Davis <a href="mailto:GDavis@armgroup.net">GDavis@armgroup.net</a><br>Doug Hamilton <a href="mailto:DHamilton@armgroup.net">DHamilton@armgroup.net</a> |    |                                                                                                                  |      |                                                                                                                     |                   |                                       |  |                                                                                                                                                                                                                                                                                                                                                           |  | Sample Disposal:<br><input type="checkbox"/> Return to Client<br><input checked="" type="checkbox"/> Disposal by lab<br><input type="checkbox"/> Archive for _____ days |  |                                                                                                                                                                                                  |  |  |  |  |              |             |              |

09 May 2024

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 05/01/24 09:31.

Maryland Spectral Services, Inc. is a TNI 2016 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2016 TNI certified except as indicated at the end of this report. Please visit our website at [www.mdspectral.com](http://www.mdspectral.com) for a complete listing of our TNI 2016 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:  
05/09/24 12:55

| Client Sample ID | Alternate Sample ID | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|------------------|---------------------|---------------|--------|----------------|----------------|
| CELL 1 SVE INF   |                     | 4050102-01    | Vapor  | 05/01/24 06:40 | 05/01/24 09:31 |
| CELL 3 SVE INF   |                     | 4050102-02    | Vapor  | 05/01/24 07:00 | 05/01/24 09:31 |



Will Brewington, President

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
05/09/24 12:55

### CELL 1 SVE INF

4050102-01 (Vapor)

Sampled on: 05/01/24 06:40

| Analyte                                                                        | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |             |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| tert-Amyl alcohol (TAA)                                                        | ND          |       | ug/L  | 2.00                     | 2.00                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| tert-Amyl ethyl ether (TAAE)                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| tert-Amyl methyl ether (TAME)                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| <b>Benzene</b>                                                                 | <b>3.89</b> |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Bromobenzene                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Bromochloromethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Bromodichloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Bromoform                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Bromomethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| tert-Butanol (TBA)                                                             | ND          |       | ug/L  | 1.50                     | 1.50                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 2-Butanone (MEK)                                                               | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| n-Butylbenzene                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| sec-Butylbenzene                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| tert-Butylbenzene                                                              | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Carbon disulfide                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Carbon tetrachloride                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Chlorobenzene                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Chloroethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Chloroform                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Chloromethane                                                                  | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 2-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 4-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 1,2-Dibromo-3-chloropropane                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Dibromochloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 1,2-Dibromoethane (EDB)                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Dibromomethane                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 1,2-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 1,3-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 1,4-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Dichlorodifluoromethane                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 1,1-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 1,2-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |

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Will Brewington, President

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**Project: SPARROWS POINT IM**

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
05/09/24 12:55

## Analytical Results

### CELL 1 SVE INF

4050102-01 (Vapor)

Sampled on: 05/01/24 06:40

| Analyte                                                                                    | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |             |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| cis-1,2-Dichloroethene                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| trans-1,2-Dichloroethene                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Dichlorofluoromethane                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 1,2-Dichloropropane                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 1,3-Dichloropropane                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 2,2-Dichloropropane                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 1,1-Dichloropropene                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| cis-1,3-Dichloropropene                                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| trans-1,3-Dichloropropene                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Diisopropyl ether (DIPE)                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Ethyl tert-butyl ether (ETBE)                                                              | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Ethylbenzene                                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Hexachlorobutadiene                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 2-Hexanone                                                                                 | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Isopropylbenzene (Cumene)                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 4-Isopropyltoluene                                                                         | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Methyl tert-butyl ether (MTBE)                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 4-Methyl-2-pentanone                                                                       | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Methylene chloride                                                                         | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Naphthalene                                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| n-Propylbenzene                                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Styrene                                                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 1,1,1,2-Tetrachloroethane                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 1,1,2,2-Tetrachloroethane                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Tetrachloroethene                                                                          | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| <b>Toluene</b>                                                                             | <b>1.00</b> |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 1,2,3-Trichlorobenzene                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 1,2,4-Trichlorobenzene                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 1,1,1-Trichloroethane                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| 1,1,2-Trichloroethane                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Trichloroethene                                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | LL      |
| Trichlorofluoromethane (Freon 11)                                                          | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 14:18 | 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

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:  
05/09/24 12:55

**CELL 1 SVE INF**

**4050102-01 (Vapor)**  
**Sampled on: 05/01/24 06:40**

| Analyte                                                                                    | Result      | Notes | Units  | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|-------------|-------|--------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |             |       |        |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND          |       | ug/L   | 0.20                     | 0.10                     | 0.1      | 05/01/24       | 05/01/24 14:18 | LL      |
| 1,2,4-Trimethylbenzene                                                                     | ND          |       | ug/L   | 0.20                     | 0.10                     | 0.1      | 05/01/24       | 05/01/24 14:18 | LL      |
| 1,3,5-Trimethylbenzene                                                                     | ND          |       | ug/L   | 0.20                     | 0.10                     | 0.1      | 05/01/24       | 05/01/24 14:18 | LL      |
| Vinyl chloride                                                                             | ND          |       | ug/L   | 0.20                     | 0.10                     | 0.1      | 05/01/24       | 05/01/24 14:18 | LL      |
| <b>o-Xylene</b>                                                                            | <b>0.16</b> | J     | ug/L   | 0.20                     | 0.10                     | 0.1      | 05/01/24       | 05/01/24 14:18 | LL      |
| <b>m- &amp; p-Xylenes</b>                                                                  | <b>0.53</b> |       | ug/L   | 0.20                     | 0.10                     | 0.1      | 05/01/24       | 05/01/24 14:18 | LL      |
| Surrogate: 1,2-Dichloroethane-d4                                                           |             |       | 70-130 | 101 %                    | 05/01/24                 |          | 05/01/24 14:18 |                |         |
| Surrogate: Toluene-d8                                                                      |             |       | 75-120 | 98 %                     | 05/01/24                 |          | 05/01/24 14:18 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |             |       | 65-120 | 97 %                     | 05/01/24                 |          | 05/01/24 14:18 |                |         |



Will Brewington, President

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworowski

Reported:  
05/09/24 12:55

### CELL 3 SVE INF

4050102-02 (Vapor)

Sampled on: 05/01/24 07:00

| Analyte                                                                        | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |        |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | 1.18   |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| tert-Amyl alcohol (TAA)                                                        | ND     |       | ug/L  | 2.00                     | 2.00                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| tert-Amyl ethyl ether (TAE)                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| tert-Amyl methyl ether (TAME)                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Benzene                                                                        | 0.13   | J     | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Bromobenzene                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Bromochloromethane                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Bromodichloromethane                                                           | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Bromoform                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Bromomethane                                                                   | ND     |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| tert-Butanol (TBA)                                                             | ND     |       | ug/L  | 1.50                     | 1.50                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 2-Butanone (MEK)                                                               | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| n-Butylbenzene                                                                 | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| sec-Butylbenzene                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| tert-Butylbenzene                                                              | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Carbon disulfide                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Carbon tetrachloride                                                           | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Chlorobenzene                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Chloroethane                                                                   | 3.15   |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Chloroform                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Chloromethane                                                                  | 0.52   |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 2-Chlorotoluene                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 4-Chlorotoluene                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 1,2-Dibromo-3-chloropropane                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Dibromochloromethane                                                           | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 1,2-Dibromoethane (EDB)                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Dibromomethane                                                                 | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 1,2-Dichlorobenzene                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 1,3-Dichlorobenzene                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 1,4-Dichlorobenzene                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Dichlorodifluoromethane                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 1,1-Dichloroethane                                                             | 0.22   |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 1,2-Dichloroethane                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |

Will Brewington, President

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**Project: SPARROWS POINT IM**

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
05/09/24 12:55

## Analytical Results

### CELL 3 SVE INF

4050102-02 (Vapor)

Sampled on: 05/01/24 07:00

| Analyte                                                                                    | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| cis-1,2-Dichloroethene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| trans-1,2-Dichloroethene                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Dichlorofluoromethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 1,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 1,3-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 2,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 1,1-Dichloropropene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| cis-1,3-Dichloropropene                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| trans-1,3-Dichloropropene                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Diisopropyl ether (DIPE)                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Ethyl tert-butyl ether (ETBE)                                                              | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Ethylbenzene                                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Hexachlorobutadiene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 2-Hexanone                                                                                 | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Isopropylbenzene (Cumene)                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 4-Isopropyltoluene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Methyl tert-butyl ether (MTBE)                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 4-Methyl-2-pentanone                                                                       | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Methylene chloride                                                                         | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Naphthalene                                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| n-Propylbenzene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Styrene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 1,1,1,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 1,1,2,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Tetrachloroethene                                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Toluene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 1,2,3-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 1,2,4-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 1,1,1-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| 1,1,2-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Trichloroethene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | LL      |
| Trichlorofluoromethane (Freon 11)                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24 | 05/01/24 12:14 | 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:  
05/09/24 12:55

### CELL 3 SVE INF

4050102-02 (Vapor)

Sampled on: 05/01/24 07:00

| Analyte                                                                                    | Result | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24       | 05/01/24 12:14 | LL      |
| 1,2,4-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24       | 05/01/24 12:14 | LL      |
| 1,3,5-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24       | 05/01/24 12:14 | LL      |
| Vinyl chloride                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24       | 05/01/24 12:14 | LL      |
| o-Xylene                                                                                   | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24       | 05/01/24 12:14 | LL      |
| m- & p-Xylenes                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/01/24       | 05/01/24 12:14 | LL      |
| Surrogate: 1,2-Dichloroethane-d4                                                           |        | 70-130 |       | 103 %                    | 05/01/24                 |          | 05/01/24 12:14 |                |         |
| Surrogate: Toluene-d8                                                                      |        | 75-120 |       | 99 %                     | 05/01/24                 |          | 05/01/24 12:14 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |        | 65-120 |       | 101 %                    | 05/01/24                 |          | 05/01/24 12:14 |                |         |

Will Brewington, President

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
05/09/24 12:55

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

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:  
05/09/24 12:55

### 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:  
05/09/24 12:55

### 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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28 May 2024

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 05/16/24 13:36.

Maryland Spectral Services, Inc. is a TNI 2016 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2016 TNI certified except as indicated at the end of this report. Please visit our website at [www.mdspectral.com](http://www.mdspectral.com) for a complete listing of our TNI 2016 Standard accreditations.

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

Sincerely,



Rabecka Koons  
Quality Assurance Officer



## 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:  
05/28/24 09:14

| Client Sample ID | Alternate Sample ID | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|------------------|---------------------|---------------|--------|----------------|----------------|
| CELL 1 EFF       |                     | 4051617-01    | Vapor  | 05/16/24 12:10 | 05/16/24 13:36 |
| CELL 1 VGAC MID  |                     | 4051617-02    | Vapor  | 05/16/24 12:15 | 05/16/24 13:36 |
| CELL 1 SVE INF   |                     | 4051617-03    | Vapor  | 05/16/24 12:20 | 05/16/24 13:36 |

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
05/28/24 09:14

### CELL 1 EFF

4051617-01 (Vapor)

Sampled on: 05/16/24 12:10

| Analyte                                                                        | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |             |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| tert-Amyl alcohol (TAA)                                                        | ND          |       | ug/L  | 2.00                     | 2.00                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| tert-Amyl ethyl ether (TAAE)                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| tert-Amyl methyl ether (TAME)                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| <b>Benzene</b>                                                                 | <b>3.01</b> |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Bromobenzene                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Bromochloromethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Bromodichloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Bromoform                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Bromomethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| tert-Butanol (TBA)                                                             | ND          |       | ug/L  | 1.50                     | 1.50                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 2-Butanone (MEK)                                                               | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| n-Butylbenzene                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| sec-Butylbenzene                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| tert-Butylbenzene                                                              | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Carbon disulfide                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Carbon tetrachloride                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Chlorobenzene                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Chloroethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Chloroform                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Chloromethane                                                                  | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 2-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 4-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 1,2-Dibromo-3-chloropropane                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Dibromochloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 1,2-Dibromoethane (EDB)                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Dibromomethane                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 1,2-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 1,3-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 1,4-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Dichlorodifluoromethane                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 1,1-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 1,2-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
05/28/24 09:14

### CELL 1 EFF

4051617-01 (Vapor)  
Sampled on: 05/16/24 12:10

| Analyte                                                                                    | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| cis-1,2-Dichloroethene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| trans-1,2-Dichloroethene                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Dichlorofluoromethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 1,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 1,3-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 2,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 1,1-Dichloropropene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| cis-1,3-Dichloropropene                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| trans-1,3-Dichloropropene                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Diisopropyl ether (DIPE)                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Ethyl tert-butyl ether (ETBE)                                                              | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Ethylbenzene                                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Hexachlorobutadiene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 2-Hexanone                                                                                 | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Isopropylbenzene (Cumene)                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 4-Isopropyltoluene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Methyl tert-butyl ether (MTBE)                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 4-Methyl-2-pentanone                                                                       | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Methylene chloride                                                                         | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Naphthalene                                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| n-Propylbenzene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Styrene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 1,1,1,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 1,1,2,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Tetrachloroethene                                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Toluene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 1,2,3-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 1,2,4-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 1,1,1-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| 1,1,2-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Trichloroethene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |
| Trichlorofluoromethane (Freon 11)                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 13:13 | LL      |

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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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:  
05/28/24 09:14

**CELL 1 EFF**

**4051617-01 (Vapor)**

**Sampled on: 05/16/24 12:10**

| Analyte                                                                                    | Result | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24       | 05/17/24 13:13 | LL      |
| 1,2,4-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24       | 05/17/24 13:13 | LL      |
| 1,3,5-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24       | 05/17/24 13:13 | LL      |
| Vinyl chloride                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24       | 05/17/24 13:13 | LL      |
| o-Xylene                                                                                   | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24       | 05/17/24 13:13 | LL      |
| m- & p-Xylenes                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24       | 05/17/24 13:13 | LL      |
| Surrogate: 1,2-Dichloroethane-d4                                                           |        | 70-130 |       | 101 %                    | 05/17/24                 |          | 05/17/24 13:13 |                |         |
| Surrogate: Toluene-d8                                                                      |        | 75-120 |       | 97 %                     | 05/17/24                 |          | 05/17/24 13:13 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |        | 65-120 |       | 100 %                    | 05/17/24                 |          | 05/17/24 13:13 |                |         |

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
05/28/24 09:14

### CELL 1 VGAC MID

4051617-02 (Vapor)

Sampled on: 05/16/24 12:15

| Analyte                                                                        | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |             |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | ND          |       | ug/L  | 5.00                     | 5.00                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| tert-Amyl alcohol (TAA)                                                        | ND          |       | ug/L  | 10.0                     | 10.0                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| tert-Amyl ethyl ether (TAAE)                                                   | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| tert-Amyl methyl ether (TAME)                                                  | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| <b>Benzene</b>                                                                 | <b>35.2</b> |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Bromobenzene                                                                   | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Bromochloromethane                                                             | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Bromodichloromethane                                                           | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Bromoform                                                                      | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Bromomethane                                                                   | ND          |       | ug/L  | 2.50                     | 2.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| tert-Butanol (TBA)                                                             | ND          |       | ug/L  | 7.50                     | 7.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 2-Butanone (MEK)                                                               | ND          |       | ug/L  | 5.00                     | 5.00                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| n-Butylbenzene                                                                 | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| sec-Butylbenzene                                                               | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| tert-Butylbenzene                                                              | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Carbon disulfide                                                               | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Carbon tetrachloride                                                           | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Chlorobenzene                                                                  | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Chloroethane                                                                   | ND          |       | ug/L  | 2.50                     | 2.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Chloroform                                                                     | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Chloromethane                                                                  | ND          |       | ug/L  | 2.50                     | 2.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 2-Chlorotoluene                                                                | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 4-Chlorotoluene                                                                | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 1,2-Dibromo-3-chloropropane                                                    | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Dibromochloromethane                                                           | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 1,2-Dibromoethane (EDB)                                                        | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Dibromomethane                                                                 | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 1,2-Dichlorobenzene                                                            | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 1,3-Dichlorobenzene                                                            | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 1,4-Dichlorobenzene                                                            | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Dichlorodifluoromethane                                                        | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 1,1-Dichloroethane                                                             | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 1,2-Dichloroethane                                                             | ND          |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
05/28/24 09:14

### CELL 1 VGAC MID

4051617-02 (Vapor)

Sampled on: 05/16/24 12:15

| Analyte                                                                                    | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| cis-1,2-Dichloroethene                                                                     | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| trans-1,2-Dichloroethene                                                                   | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Dichlorofluoromethane                                                                      | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 1,2-Dichloropropane                                                                        | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 1,3-Dichloropropane                                                                        | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 2,2-Dichloropropane                                                                        | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 1,1-Dichloropropene                                                                        | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| cis-1,3-Dichloropropene                                                                    | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| trans-1,3-Dichloropropene                                                                  | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Diisopropyl ether (DIPE)                                                                   | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Ethyl tert-butyl ether (ETBE)                                                              | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Ethylbenzene                                                                               | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Hexachlorobutadiene                                                                        | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 2-Hexanone                                                                                 | ND     |       | ug/L  | 5.00                     | 5.00                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Isopropylbenzene (Cumene)                                                                  | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 4-Isopropyltoluene                                                                         | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Methyl tert-butyl ether (MTBE)                                                             | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 4-Methyl-2-pentanone                                                                       | ND     |       | ug/L  | 5.00                     | 5.00                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Methylene chloride                                                                         | ND     |       | ug/L  | 5.00                     | 5.00                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Naphthalene                                                                                | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| n-Propylbenzene                                                                            | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Styrene                                                                                    | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 1,1,1,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 1,1,2,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Tetrachloroethene                                                                          | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Toluene                                                                                    | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 1,2,3-Trichlorobenzene                                                                     | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 1,2,4-Trichlorobenzene                                                                     | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 1,1,1-Trichloroethane                                                                      | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| 1,1,2-Trichloroethane                                                                      | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Trichloroethene                                                                            | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |
| Trichlorofluoromethane (Freon 11)                                                          | ND     |       | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24 | 05/17/24 14:28 | LL      |

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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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

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:  
05/28/24 09:14

**CELL 1 VGAC MID**

**4051617-02 (Vapor)**

**Sampled on: 05/16/24 12:15**

| Analyte                                                                                    | Result | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND     |        | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24       | 05/17/24 14:28 | LL      |
| 1,2,4-Trimethylbenzene                                                                     | ND     |        | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24       | 05/17/24 14:28 | LL      |
| 1,3,5-Trimethylbenzene                                                                     | ND     |        | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24       | 05/17/24 14:28 | LL      |
| Vinyl chloride                                                                             | ND     |        | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24       | 05/17/24 14:28 | LL      |
| o-Xylene                                                                                   | ND     |        | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24       | 05/17/24 14:28 | LL      |
| m- & p-Xylenes                                                                             | ND     |        | ug/L  | 1.00                     | 0.50                     | 0.5      | 05/17/24       | 05/17/24 14:28 | LL      |
| Surrogate: 1,2-Dichloroethane-d4                                                           |        | 70-130 |       | 104 %                    | 05/17/24                 |          | 05/17/24 14:28 |                |         |
| Surrogate: Toluene-d8                                                                      |        | 75-120 |       | 98 %                     | 05/17/24                 |          | 05/17/24 14:28 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |        | 65-120 |       | 100 %                    | 05/17/24                 |          | 05/17/24 14:28 |                |         |

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Rabecka Koons, Quality Assurance Officer

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
05/28/24 09:14

### CELL 1 SVE INF

4051617-03 (Vapor)

Sampled on: 05/16/24 12:20

| Analyte                                                                        | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |             |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| tert-Amyl alcohol (TAA)                                                        | ND          |       | ug/L  | 2.00                     | 2.00                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| tert-Amyl ethyl ether (TAAE)                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| tert-Amyl methyl ether (TAME)                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| <b>Benzene</b>                                                                 | <b>1.02</b> |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Bromobenzene                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Bromochloromethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Bromodichloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Bromoform                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Bromomethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| tert-Butanol (TBA)                                                             | ND          |       | ug/L  | 1.50                     | 1.50                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 2-Butanone (MEK)                                                               | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| n-Butylbenzene                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| sec-Butylbenzene                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| tert-Butylbenzene                                                              | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Carbon disulfide                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Carbon tetrachloride                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Chlorobenzene                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Chloroethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Chloroform                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Chloromethane                                                                  | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 2-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 4-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 1,2-Dibromo-3-chloropropane                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Dibromochloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 1,2-Dibromoethane (EDB)                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Dibromomethane                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 1,2-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 1,3-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 1,4-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Dichlorodifluoromethane                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 1,1-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 1,2-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
05/28/24 09:14

### CELL 1 SVE INF

4051617-03 (Vapor)

Sampled on: 05/16/24 12:20

| Analyte                                                                                    | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| cis-1,2-Dichloroethene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| trans-1,2-Dichloroethene                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Dichlorofluoromethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 1,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 1,3-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 2,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 1,1-Dichloropropene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| cis-1,3-Dichloropropene                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| trans-1,3-Dichloropropene                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Diisopropyl ether (DIPE)                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Ethyl tert-butyl ether (ETBE)                                                              | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Ethylbenzene                                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Hexachlorobutadiene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 2-Hexanone                                                                                 | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Isopropylbenzene (Cumene)                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 4-Isopropyltoluene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Methyl tert-butyl ether (MTBE)                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 4-Methyl-2-pentanone                                                                       | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Methylene chloride                                                                         | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Naphthalene                                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| n-Propylbenzene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Styrene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 1,1,1,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 1,1,2,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Tetrachloroethene                                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Toluene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 1,2,3-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 1,2,4-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 1,1,1-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| 1,1,2-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Trichloroethene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |
| Trichlorofluoromethane (Freon 11)                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24 | 05/17/24 14:53 | LL      |

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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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:  
05/28/24 09:14

**CELL 1 SVE INF**

**4051617-03 (Vapor)**

**Sampled on: 05/16/24 12:20**

| Analyte                                                                                    | Result | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24       | 05/17/24 14:53 | LL      |
| 1,2,4-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24       | 05/17/24 14:53 | LL      |
| 1,3,5-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24       | 05/17/24 14:53 | LL      |
| Vinyl chloride                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24       | 05/17/24 14:53 | LL      |
| o-Xylene                                                                                   | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24       | 05/17/24 14:53 | LL      |
| m- & p-Xylenes                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 05/17/24       | 05/17/24 14:53 | LL      |
| Surrogate: 1,2-Dichloroethane-d4                                                           |        | 70-130 |       | 103 %                    | 05/17/24                 |          | 05/17/24 14:53 |                |         |
| Surrogate: Toluene-d8                                                                      |        | 75-120 |       | 98 %                     | 05/17/24                 |          | 05/17/24 14:53 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |        | 65-120 |       | 100 %                    | 05/17/24                 |          | 05/17/24 14:53 |                |         |

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
05/28/24 09:14

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) |

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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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:  
05/28/24 09:14

### 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

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]

Project Manager: Bob Tworkowski

### Notes and Definitions

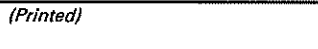
|          |                                                                                                                                                                               |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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                                                                                                |

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.

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                  |    |                                                                                                                                                                                                                                                                                                                                                   |      |                                                                                                                     |  |                               |  |                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                  |  |  |              |             |              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------------------------------------------|--|-------------------------------|--|---------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--------------|-------------|--------------|
| Company Name:<br>Tradepoint Atlantic                                                                                                                                                                                                           |         | Company Address:<br>6995 Bethlehem Blvd, Suite 100<br>Baltimore, MD 21219                                                                                                                                        |    | Analysis Requested<br><div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">           No. of Containers<br/>           FULL SUITE VOCs +<br/>           NAPHTHALENE 8260         </div> <div style="border: 1px solid black; width: 100%; height: 100%;"></div> </div> |      |                                                                                                                     |  |                               |  |                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                           |  | <b>CHAIN-OF-CUSTODY RECORD</b><br><br>Maryland Spectral Services, Inc.<br>1500 Caton Center Drive, Suite G<br>Baltimore, MD 21227<br>410-247-7600 • Fax 410-247-7602<br>reporting@mdspectral.com |  |  |              |             |              |
| Project Name:<br>Sparrows Point IM                                                                                                                                                                                                             |         | Project Manager:<br>Bob Tworkowski<br>(443) 649-5073                                                                                                                                                             |    |                                                                                                                                                                                                                                                                                                                                                   |      |                                                                                                                     |  |                               |  |                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                  |  |  |              |             |              |
| Sampler(s):<br>Guy Davis/ARM Group<br>(443) 610-0211                                                                                                                                                                                           |         | Attention/Invoice:<br>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 EFF                                                                                                                                                                                                                                     | 5/16/24 | 1210                                                                                                                                                                                                             |    |                                                                                                                                                                                                                                                                                                                                                   |      | X                                                                                                                   |  |                               |  |                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                  |  |  |              |             | 4051617-01 A |
| CELL 1 VGAL MID                                                                                                                                                                                                                                | ↓       | 1215                                                                                                                                                                                                             |    |                                                                                                                                                                                                                                                                                                                                                   |      | X                                                                                                                   |  |                               |  |                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                  |  |  |              |             | - 02         |
| CELL 1 SVE INF                                                                                                                                                                                                                                 | 5/16/24 | 1220                                                                                                                                                                                                             |    |                                                                                                                                                                                                                                                                                                                                                   |      | X                                                                                                                   |  |                               |  |                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                  |  |  |              |             | - 03         |
|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                  |    |                                                                                                                                                                                                                                                                                                                                                   |      |                                                                                                                     |  |                               |  |                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                  |    |                                                                                                                                                                                                                                                                                                                                                   |      |                                                                                                                     |  |                               |  |                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                  |    |                                                                                                                                                                                                                                                                                                                                                   |      |                                                                                                                     |  |                               |  |                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                  |    |                                                                                                                                                                                                                                                                                                                                                   |      |                                                                                                                     |  |                               |  |                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                  |    |                                                                                                                                                                                                                                                                                                                                                   |      |                                                                                                                     |  |                               |  |                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                  |    |                                                                                                                                                                                                                                                                                                                                                   |      |                                                                                                                     |  |                               |  |                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                  |    |                                                                                                                                                                                                                                                                                                                                                   |      |                                                                                                                     |  |                               |  |                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                  |    |                                                                                                                                                                                                                                                                                                                                                   |      |                                                                                                                     |  |                               |  |                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                  |    |                                                                                                                                                                                                                                                                                                                                                   |      |                                                                                                                     |  |                               |  |                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                  |    |                                                                                                                                                                                                                                                                                                                                                   |      |                                                                                                                     |  |                               |  |                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                  |    |                                                                                                                                                                                                                                                                                                                                                   |      |                                                                                                                     |  |                               |  |                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                  |    |                                                                                                                                                                                                                                                                                                                                                   |      |                                                                                                                     |  |                               |  |                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                  |  |  |              |             |              |
| Relinquished by: (Signature)<br>                                                                                                                            |         | Date/Time<br>5/16/24/<br>1335                                                                                                                                                                                    |    | Received by: (Signature)<br>                                                                                                                                                                                                                                   |      | Relinquished by: (Signature)<br> |  | Date/Time<br>5-16-24<br>13:36 |  | Received by Lab: (Signature)<br> |  | Turn Around Time:<br><input checked="" type="checkbox"/> Normal (7 day)<br><input type="checkbox"/> 5 day<br><input type="checkbox"/> 4 day<br><input type="checkbox"/> 3 day<br><input type="checkbox"/> Rush (2 day)<br><input type="checkbox"/> Next Day<br><input type="checkbox"/> Other: _____<br><input type="checkbox"/> Specific Due Date: _____ |  | Lab Use:<br>Temp: _____°C<br><input type="checkbox"/> Received on Ice<br><input checked="" type="checkbox"/> Received same day                                                                   |  |  |              |             |              |
| (Printed)<br>Guy L Davis                                                                                                                                                                                                                       |         |                                                                                                                                                                                                                  |    | (Printed)<br>Lori Foster                                                                                                                                                                                                                                                                                                                          |      | (Printed)                                                                                                           |  |                               |  | (Printed)                                                                                                           |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                  |  |  |              |             |              |
| Delivery Method:<br><input checked="" type="checkbox"/> Courier<br><input type="checkbox"/> Client<br><input type="checkbox"/> UPS<br><input type="checkbox"/> FedEx<br><input type="checkbox"/> USPS<br><input type="checkbox"/> Other: _____ |         | Special Instructions/QC Requirements & Comments:<br>Please report to:<br>Bob Tworkowski    btworkowski@tradepointatlantic.com<br>Guy Davis        GDavis@armgroup.net<br>Doug Hamilton    DHamilton@armgroup.net |    |                                                                                                                                                                                                                                                                                                                                                   |      |                                                                                                                     |  |                               |  |                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                  |  |  |              |             |              |
|                                                                                                                                                                                                                                                |         | Sample Disposal:<br><input type="checkbox"/> Return to Client<br><input checked="" type="checkbox"/> Disposal by lab<br><input type="checkbox"/> Archive for _____ days                                          |    |                                                                                                                                                                                                                                                                                                                                                   |      |                                                                                                                     |  |                               |  |                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                  |  |  |              |             |              |

12 June 2024

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 06/03/24 11:05.

Maryland Spectral Services, Inc. is a TNI 2016 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2016 TNI certified except as indicated at the end of this report. Please visit our website at [www.mdspectral.com](http://www.mdspectral.com) for a complete listing of our TNI 2016 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:  
06/12/24 11:19

| Client Sample ID | Alternate Sample ID | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|------------------|---------------------|---------------|--------|----------------|----------------|
| CELL 1 SVE INF   |                     | 4060307-01    | Vapor  | 06/03/24 06:45 | 06/03/24 11:05 |
| CELL 3 SVE INF   |                     | 4060307-02    | Vapor  | 06/03/24 07:00 | 06/03/24 11:05 |
| CELL 5 DPE INF   |                     | 4060307-03    | Vapor  | 06/03/24 08:00 | 06/03/24 11:05 |



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.*



**Project: SPARROWS POINT IM**

Project Number: [none]  
Project Manager: Bob Tworowski

Reported:  
06/12/24 11:19

## Analytical Results

### CELL 1 SVE INF

**4060307-01 (Vapor)**

**Sampled on: 06/03/24 06:45**

| Analyte                                                                        | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |             |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| tert-Amyl alcohol (TAA)                                                        | ND          |       | ug/L  | 2.00                     | 2.00                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| tert-Amyl ethyl ether (TAAE)                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| tert-Amyl methyl ether (TAME)                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| <b>Benzene</b>                                                                 | <b>0.10</b> | J     | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Bromobenzene                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Bromochloromethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Bromodichloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Bromoform                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Bromomethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| tert-Butanol (TBA)                                                             | ND          |       | ug/L  | 1.50                     | 1.50                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 2-Butanone (MEK)                                                               | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| n-Butylbenzene                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| sec-Butylbenzene                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| tert-Butylbenzene                                                              | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Carbon disulfide                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Carbon tetrachloride                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Chlorobenzene                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Chloroethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Chloroform                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Chloromethane                                                                  | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 2-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 4-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 1,2-Dibromo-3-chloropropane                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Dibromochloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 1,2-Dibromoethane (EDB)                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Dibromomethane                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 1,2-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 1,3-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 1,4-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Dichlorodifluoromethane                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 1,1-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 1,2-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | 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:  
06/12/24 11:19

### CELL 1 SVE INF

4060307-01 (Vapor)

Sampled on: 06/03/24 06:45

| Analyte                                                                                    | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| cis-1,2-Dichloroethene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| trans-1,2-Dichloroethene                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Dichlorofluoromethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 1,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 1,3-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 2,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 1,1-Dichloropropene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| cis-1,3-Dichloropropene                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| trans-1,3-Dichloropropene                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Diisopropyl ether (DIPE)                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Ethyl tert-butyl ether (ETBE)                                                              | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Ethylbenzene                                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Hexachlorobutadiene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 2-Hexanone                                                                                 | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Isopropylbenzene (Cumene)                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 4-Isopropyltoluene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Methyl tert-butyl ether (MTBE)                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 4-Methyl-2-pentanone                                                                       | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Methylene chloride                                                                         | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Naphthalene                                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| n-Propylbenzene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Styrene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 1,1,1,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 1,1,2,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Tetrachloroethene                                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Toluene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 1,2,3-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 1,2,4-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 1,1,1-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| 1,1,2-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Trichloroethene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |
| Trichlorofluoromethane (Freon 11)                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:49 | LL      |

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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:  
06/12/24 11:19

**CELL 1 SVE INF**

**4060307-01 (Vapor)**

**Sampled on: 06/03/24 06:45**

| Analyte                                                                                    | Result | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24       | 06/03/24 13:49 | LL      |
| 1,2,4-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24       | 06/03/24 13:49 | LL      |
| 1,3,5-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24       | 06/03/24 13:49 | LL      |
| Vinyl chloride                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24       | 06/03/24 13:49 | LL      |
| o-Xylene                                                                                   | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24       | 06/03/24 13:49 | LL      |
| m- & p-Xylenes                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24       | 06/03/24 13:49 | LL      |
| Surrogate: 1,2-Dichloroethane-d4                                                           |        | 70-130 |       | 104 %                    | 06/03/24                 |          | 06/03/24 13:49 |                |         |
| Surrogate: Toluene-d8                                                                      |        | 75-120 |       | 96 %                     | 06/03/24                 |          | 06/03/24 13:49 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |        | 65-120 |       | 96 %                     | 06/03/24                 |          | 06/03/24 13:49 |                |         |



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**Project: SPARROWS POINT IM**

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
06/12/24 11:19

## Analytical Results

### CELL 3 SVE INF

**4060307-02 (Vapor)**

**Sampled on: 06/03/24 07:00**

| Analyte                                                                        | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |        |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | 1.43   |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| tert-Amyl alcohol (TAA)                                                        | ND     |       | ug/L  | 2.00                     | 2.00                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| tert-Amyl ethyl ether (TAAE)                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| tert-Amyl methyl ether (TAME)                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Benzene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Bromobenzene                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Bromochloromethane                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Bromodichloromethane                                                           | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Bromoform                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Bromomethane                                                                   | ND     |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| tert-Butanol (TBA)                                                             | ND     |       | ug/L  | 1.50                     | 1.50                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 2-Butanone (MEK)                                                               | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| n-Butylbenzene                                                                 | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| sec-Butylbenzene                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| tert-Butylbenzene                                                              | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Carbon disulfide                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Carbon tetrachloride                                                           | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Chlorobenzene                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Chloroethane                                                                   | 2.14   |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Chloroform                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Chloromethane                                                                  | ND     |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 2-Chlorotoluene                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 4-Chlorotoluene                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 1,2-Dibromo-3-chloropropane                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Dibromochloromethane                                                           | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 1,2-Dibromoethane (EDB)                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Dibromomethane                                                                 | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 1,2-Dichlorobenzene                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 1,3-Dichlorobenzene                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 1,4-Dichlorobenzene                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Dichlorodifluoromethane                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 1,1-Dichloroethane                                                             | 0.28   |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 1,2-Dichloroethane                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
06/12/24 11:19

### CELL 3 SVE INF

4060307-02 (Vapor)

Sampled on: 06/03/24 07:00

| Analyte                                                                                    | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| cis-1,2-Dichloroethene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| trans-1,2-Dichloroethene                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Dichlorofluoromethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 1,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 1,3-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 2,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 1,1-Dichloropropene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| cis-1,3-Dichloropropene                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| trans-1,3-Dichloropropene                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Diisopropyl ether (DIPE)                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Ethyl tert-butyl ether (ETBE)                                                              | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Ethylbenzene                                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Hexachlorobutadiene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 2-Hexanone                                                                                 | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Isopropylbenzene (Cumene)                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 4-Isopropyltoluene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Methyl tert-butyl ether (MTBE)                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 4-Methyl-2-pentanone                                                                       | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Methylene chloride                                                                         | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Naphthalene                                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| n-Propylbenzene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Styrene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 1,1,1,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 1,1,2,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Tetrachloroethene                                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Toluene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 1,2,3-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 1,2,4-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 1,1,1-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| 1,1,2-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Trichloroethene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |
| Trichlorofluoromethane (Freon 11)                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:00 | LL      |

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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:  
06/12/24 11:19

**CELL 3 SVE INF**

**4060307-02 (Vapor)**

**Sampled on: 06/03/24 07:00**

| Analyte                                                                                    | Result | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24       | 06/03/24 13:00 | LL      |
| 1,2,4-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24       | 06/03/24 13:00 | LL      |
| 1,3,5-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24       | 06/03/24 13:00 | LL      |
| Vinyl chloride                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24       | 06/03/24 13:00 | LL      |
| o-Xylene                                                                                   | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24       | 06/03/24 13:00 | LL      |
| m- & p-Xylenes                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24       | 06/03/24 13:00 | LL      |
| Surrogate: 1,2-Dichloroethane-d4                                                           |        | 70-130 |       | 97 %                     | 06/03/24                 |          | 06/03/24 13:00 |                |         |
| Surrogate: Toluene-d8                                                                      |        | 75-120 |       | 99 %                     | 06/03/24                 |          | 06/03/24 13:00 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |        | 65-120 |       | 101 %                    | 06/03/24                 |          | 06/03/24 13:00 |                |         |



Will Brewington, President

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworowski

Reported:  
06/12/24 11:19

### CELL 5 DPE INF

4060307-03 (Vapor)

Sampled on: 06/03/24 08:00

| Analyte                                                                        | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |             |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| tert-Amyl alcohol (TAA)                                                        | ND          |       | ug/L  | 2.00                     | 2.00                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| tert-Amyl ethyl ether (TAAE)                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| tert-Amyl methyl ether (TAME)                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| <b>Benzene</b>                                                                 | <b>0.20</b> | J     | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Bromobenzene                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Bromochloromethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Bromodichloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Bromoform                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Bromomethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| tert-Butanol (TBA)                                                             | ND          |       | ug/L  | 1.50                     | 1.50                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 2-Butanone (MEK)                                                               | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| n-Butylbenzene                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| sec-Butylbenzene                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| tert-Butylbenzene                                                              | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Carbon disulfide                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Carbon tetrachloride                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Chlorobenzene                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Chloroethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Chloroform                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Chloromethane                                                                  | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 2-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 4-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 1,2-Dibromo-3-chloropropane                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Dibromochloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 1,2-Dibromoethane (EDB)                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Dibromomethane                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 1,2-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 1,3-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 1,4-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Dichlorodifluoromethane                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 1,1-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 1,2-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |

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Will Brewington, President

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**Project: SPARROWS POINT IM**

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
06/12/24 11:19

## Analytical Results

### CELL 5 DPE INF

4060307-03 (Vapor)

Sampled on: 06/03/24 08:00

| Analyte                                                                                    | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |             |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| cis-1,2-Dichloroethene                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| trans-1,2-Dichloroethene                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Dichlorofluoromethane                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 1,2-Dichloropropane                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 1,3-Dichloropropane                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 2,2-Dichloropropane                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 1,1-Dichloropropene                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| cis-1,3-Dichloropropene                                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| trans-1,3-Dichloropropene                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Diisopropyl ether (DIPE)                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Ethyl tert-butyl ether (ETBE)                                                              | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Ethylbenzene                                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Hexachlorobutadiene                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 2-Hexanone                                                                                 | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Isopropylbenzene (Cumene)                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 4-Isopropyltoluene                                                                         | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Methyl tert-butyl ether (MTBE)                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 4-Methyl-2-pentanone                                                                       | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Methylene chloride                                                                         | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| <b>Naphthalene</b>                                                                         | <b>0.10</b> | J     | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| n-Propylbenzene                                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Styrene                                                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 1,1,1,2-Tetrachloroethane                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 1,1,1,2,2-Tetrachloroethane                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Tetrachloroethene                                                                          | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| <b>Toluene</b>                                                                             | <b>0.16</b> | J     | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 1,2,3-Trichlorobenzene                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 1,2,4-Trichlorobenzene                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 1,1,1-Trichloroethane                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| 1,1,2-Trichloroethane                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Trichloroethene                                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |
| Trichlorofluoromethane (Freon 11)                                                          | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24 | 06/03/24 13:24 | LL      |

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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:  
06/12/24 11:19

**CELL 5 DPE INF**

**4060307-03 (Vapor)**

**Sampled on: 06/03/24 08:00**

| Analyte                                                                                    | Result      | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|-------------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |             |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND          |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24       | 06/03/24 13:24 | LL      |
| 1,2,4-Trimethylbenzene                                                                     | ND          |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24       | 06/03/24 13:24 | LL      |
| 1,3,5-Trimethylbenzene                                                                     | ND          |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24       | 06/03/24 13:24 | LL      |
| Vinyl chloride                                                                             | ND          |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24       | 06/03/24 13:24 | LL      |
| o-Xylene                                                                                   | ND          |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24       | 06/03/24 13:24 | LL      |
| <b>m- &amp; p-Xylenes</b>                                                                  | <b>0.22</b> |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 06/03/24       | 06/03/24 13:24 | LL      |
| Surrogate: 1,2-Dichloroethane-d4                                                           |             | 70-130 |       | 100 %                    | 06/03/24                 |          | 06/03/24 13:24 |                |         |
| Surrogate: Toluene-d8                                                                      |             | 75-120 |       | 97 %                     | 06/03/24                 |          | 06/03/24 13:24 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |             | 65-120 |       | 97 %                     | 06/03/24                 |          | 06/03/24 13:24 |                |         |



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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
06/12/24 11:19

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)   1,1,2,2-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

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:  
06/12/24 11:19

### 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

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworowski

Reported:  
06/12/24 11:19

### 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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01 August 2024

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 07/23/24 13:18.

Maryland Spectral Services, Inc. is a TNI 2016 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2016 TNI certified except as indicated at the end of this report. Please visit our website at [www.mdspectral.com](http://www.mdspectral.com) for a complete listing of our TNI 2016 Standard accreditations.

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

Sincerely,



Rabecka Koons  
Quality Assurance Officer

## 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:  
08/01/24 10:58

| Client Sample ID | Alternate Sample ID | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|------------------|---------------------|---------------|--------|----------------|----------------|
| CELL 3 SVE INF   |                     | 4072316-01    | Vapor  | 07/23/24 08:15 | 07/23/24 13:18 |
| CELL 1 SVE INF   |                     | 4072316-02    | Vapor  | 07/23/24 09:15 | 07/23/24 13:18 |

*Rabecka Koons*

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.*

## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworowski

Reported:  
08/01/24 10:58

### CELL 3 SVE INF

4072316-01 (Vapor)  
Sampled on: 07/23/24 08:15

| Analyte                                                                        | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |             |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| tert-Amyl alcohol (TAA)                                                        | ND          |       | ug/L  | 2.00                     | 2.00                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| tert-Amyl ethyl ether (TAAE)                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| tert-Amyl methyl ether (TAME)                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Benzene                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Bromobenzene                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Bromochloromethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Bromodichloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Bromoform                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Bromomethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| tert-Butanol (TBA)                                                             | ND          |       | ug/L  | 1.50                     | 1.50                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| 2-Butanone (MEK)                                                               | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| n-Butylbenzene                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| sec-Butylbenzene                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| tert-Butylbenzene                                                              | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Carbon disulfide                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Carbon tetrachloride                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Chlorobenzene                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| <b>Chloroethane</b>                                                            | <b>1.81</b> |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Chloroform                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Chloromethane                                                                  | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| 2-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| 4-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| 1,2-Dibromo-3-chloropropane                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Dibromochloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| 1,2-Dibromoethane (EDB)                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Dibromomethane                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| 1,2-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| 1,3-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| 1,4-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Dichlorodifluoromethane                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| <b>1,1-Dichloroethane</b>                                                      | <b>0.26</b> |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| 1,2-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworowski

Reported:  
08/01/24 10:58

### CELL 3 SVE INF

4072316-01 (Vapor)

Sampled on: 07/23/24 08:15

| Analyte                                                                                    | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| cis-1,2-Dichloroethene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| trans-1,2-Dichloroethene                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Dichlorofluoromethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| 1,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| 1,3-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| 2,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| 1,1-Dichloropropene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| cis-1,3-Dichloropropene                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| trans-1,3-Dichloropropene                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Diisopropyl ether (DIPE)                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Ethyl tert-butyl ether (ETBE)                                                              | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Ethylbenzene                                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Hexachlorobutadiene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| 2-Hexanone                                                                                 | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Isopropylbenzene (Cumene)                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| 4-Isopropyltoluene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Methyl tert-butyl ether (MTBE)                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| 4-Methyl-2-pentanone                                                                       | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Methylene chloride                                                                         | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Naphthalene                                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| n-Propylbenzene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Styrene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| 1,1,1,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| 1,1,2,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Tetrachloroethene                                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Toluene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| 1,2,3-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| 1,2,4-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| 1,1,1-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| 1,1,2-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Trichloroethene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |
| Trichlorofluoromethane (Freon 11)                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 14:57 | MNB     |

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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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:  
08/01/24 10:58

**CELL 3 SVE INF**

**4072316-01 (Vapor)**

**Sampled on: 07/23/24 08:15**

| Analyte                                                                                    | Result | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24       | 07/23/24 14:57 | MNB     |
| 1,2,4-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24       | 07/23/24 14:57 | MNB     |
| 1,3,5-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24       | 07/23/24 14:57 | MNB     |
| Vinyl chloride                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24       | 07/23/24 14:57 | MNB     |
| o-Xylene                                                                                   | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24       | 07/23/24 14:57 | MNB     |
| m- & p-Xylenes                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24       | 07/23/24 14:57 | MNB     |
| Surrogate: 1,2-Dichloroethane-d4                                                           |        | 70-130 |       | 95 %                     | 07/23/24                 |          | 07/23/24 14:57 |                |         |
| Surrogate: Toluene-d8                                                                      |        | 75-120 |       | 95 %                     | 07/23/24                 |          | 07/23/24 14:57 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |        | 65-120 |       | 95 %                     | 07/23/24                 |          | 07/23/24 14:57 |                |         |

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworowski

Reported:  
08/01/24 10:58

### CELL 1 SVE INF

4072316-02 (Vapor)

Sampled on: 07/23/24 09:15

| Analyte                                                                        | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |             |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| tert-Amyl alcohol (TAA)                                                        | ND          |       | ug/L  | 2.00                     | 2.00                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| tert-Amyl ethyl ether (TAAE)                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| tert-Amyl methyl ether (TAME)                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| <b>Benzene</b>                                                                 | <b>0.13</b> | J     | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Bromobenzene                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Bromochloromethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Bromodichloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Bromoform                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Bromomethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| tert-Butanol (TBA)                                                             | ND          |       | ug/L  | 1.50                     | 1.50                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 2-Butanone (MEK)                                                               | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| n-Butylbenzene                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| sec-Butylbenzene                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| tert-Butylbenzene                                                              | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Carbon disulfide                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Carbon tetrachloride                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Chlorobenzene                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Chloroethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Chloroform                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Chloromethane                                                                  | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 2-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 4-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 1,2-Dibromo-3-chloropropane                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Dibromochloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 1,2-Dibromoethane (EDB)                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Dibromomethane                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 1,2-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 1,3-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 1,4-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Dichlorodifluoromethane                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 1,1-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 1,2-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworowski

Reported:  
08/01/24 10:58

### CELL 1 SVE INF

4072316-02 (Vapor)

Sampled on: 07/23/24 09:15

| Analyte                                                                                    | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| cis-1,2-Dichloroethene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| trans-1,2-Dichloroethene                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Dichlorofluoromethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 1,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 1,3-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 2,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 1,1-Dichloropropene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| cis-1,3-Dichloropropene                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| trans-1,3-Dichloropropene                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Diisopropyl ether (DIPE)                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Ethyl tert-butyl ether (ETBE)                                                              | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Ethylbenzene                                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Hexachlorobutadiene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 2-Hexanone                                                                                 | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Isopropylbenzene (Cumene)                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 4-Isopropyltoluene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Methyl tert-butyl ether (MTBE)                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 4-Methyl-2-pentanone                                                                       | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Methylene chloride                                                                         | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Naphthalene                                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| n-Propylbenzene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Styrene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 1,1,1,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 1,1,2,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Tetrachloroethene                                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Toluene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 1,2,3-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 1,2,4-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 1,1,1-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| 1,1,2-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Trichloroethene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |
| Trichlorofluoromethane (Freon 11)                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24 | 07/23/24 15:22 | MNB     |

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
08/01/24 10:58

### CELL 1 SVE INF

4072316-02 (Vapor)

Sampled on: 07/23/24 09:15

| Analyte                                                                                    | Result | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24       | 07/23/24 15:22 | MNB     |
| 1,2,4-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24       | 07/23/24 15:22 | MNB     |
| 1,3,5-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24       | 07/23/24 15:22 | MNB     |
| Vinyl chloride                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24       | 07/23/24 15:22 | MNB     |
| o-Xylene                                                                                   | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24       | 07/23/24 15:22 | MNB     |
| m- & p-Xylenes                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 07/23/24       | 07/23/24 15:22 | MNB     |
| Surrogate: 1,2-Dichloroethane-d4                                                           |        | 70-130 |       | 93 %                     | 07/23/24                 |          | 07/23/24 15:22 |                |         |
| Surrogate: Toluene-d8                                                                      |        | 75-120 |       | 95 %                     | 07/23/24                 |          | 07/23/24 15:22 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |        | 65-120 |       | 92 %                     | 07/23/24                 |          | 07/23/24 15:22 |                |         |

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
08/01/24 10:58

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) |

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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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:  
08/01/24 10:58

### 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

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworowski

Reported:  
08/01/24 10:58

### 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.

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                                                                                                                                                     |    |                                                                                                                                                                                                                                                                                                                                                           |      |                                                                                                                                 |                   |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |  |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |             |                                                                                                                                                                         |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Company Name:<br>Tradepoint Atlantic                                                                                                                                                                                                           |         | Company Address:<br>6995 Bethlehem Blvd, Suite 100<br>Baltimore, MD 21219                                                                                                                                                                                                                                                                           |    | Analysis Requested<br><br>FULL SUITE VOCs +<br>NAPHTHALENE 8260                                                                                                                                                                                                                                                                                           |      |                                                                                                                                 |                   |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |  | <b>CHAIN-OF-CUSTODY RECORD</b>                                                                                                                                          |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |             |                                                                                                                                                                         |  |
| Project Name:<br>Sparrows Point IM                                                                                                                                                                                                             |         | Project Manager:<br>Bob Tworkowski<br>(443) 649-5073                                                                                                                                                                                                                                                                                                |    |                                                                                                                                                                                                                                                                                                                                                           |      |                                                                                                                                 |                   |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |  | Maryland Spectral Services, Inc.<br>1500 Caton Center Drive, Suite G<br>Baltimore, MD 21227<br>410-247-7600 • Fax 410-247-7602<br>reporting@mdspectral.com              |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |             |                                                                                                                                                                         |  |
| Sampler(s):<br>Tom Palank/ARM Group<br>(443) 995-5125                                                                                                                                                                                          |         | Attention/Invoice:<br>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                                                                                                                                                                                                                                 | 7/23/24 | 0815                                                                                                                                                                                                                                                                                                                                                |    |                                                                                                                                                                                                                                                                                                                                                           |      | X                                                                                                                               | 1                 | X                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |  |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |             | <b>4072316-01 A</b>                                                                                                                                                     |  |
| CELL 1 SVE INF                                                                                                                                                                                                                                 | 7/23/24 | 0915                                                                                                                                                                                                                                                                                                                                                |    |                                                                                                                                                                                                                                                                                                                                                           |      | X                                                                                                                               | 1                 | X                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |  |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |             | - 02                                                                                                                                                                    |  |
|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                                                                                                                                                     |    |                                                                                                                                                                                                                                                                                                                                                           |      |                                                                                                                                 |                   |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |  |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |             |                                                                                                                                                                         |  |
|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                                                                                                                                                     |    |                                                                                                                                                                                                                                                                                                                                                           |      |                                                                                                                                 |                   |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |  |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |             |                                                                                                                                                                         |  |
|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                                                                                                                                                     |    |                                                                                                                                                                                                                                                                                                                                                           |      |                                                                                                                                 |                   |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |  |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |             |                                                                                                                                                                         |  |
|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                                                                                                                                                     |    |                                                                                                                                                                                                                                                                                                                                                           |      |                                                                                                                                 |                   |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |  |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |             |                                                                                                                                                                         |  |
|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                                                                                                                                                     |    |                                                                                                                                                                                                                                                                                                                                                           |      |                                                                                                                                 |                   |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |  |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |             |                                                                                                                                                                         |  |
|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                                                                                                                                                     |    |                                                                                                                                                                                                                                                                                                                                                           |      |                                                                                                                                 |                   |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |  |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |             |                                                                                                                                                                         |  |
|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                                                                                                                                                     |    |                                                                                                                                                                                                                                                                                                                                                           |      |                                                                                                                                 |                   |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |  |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |             |                                                                                                                                                                         |  |
|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                                                                                                                                                     |    |                                                                                                                                                                                                                                                                                                                                                           |      |                                                                                                                                 |                   |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |  |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |             |                                                                                                                                                                         |  |
|                                                                                                                                                                                                                                                |         |                                                                                                                                                                                                                                                                                                                                                     |    |                                                                                                                                                                                                                                                                                                                                                           |      |                                                                                                                                 |                   |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |  |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |             |                                                                                                                                                                         |  |
| Relinquished by: (Signature)<br>                                                                                                                                                                                                               |         | Date/Time<br>7/23/24                                                                                                                                                                                                                                                                                                                                |    | Received by: (Signature)<br>                                                                                                                                                                                                                                                                                                                              |      | Relinquished by: (Signature)<br>                                                                                                |                   | Date/Time<br>1320                                                                                                                                                       |  | Received by: (Signature)<br>                                                                                                                                                                                                                                                                                                                              |  | Date/Time<br>1320                                                                                                               |  | Received by: (Signature)<br>                                                                                                                                            |  | Date/Time<br>1320                                                                                                                                                                                                                                                                                                                                         |  | Received by: (Signature)<br>                                                                                                    |             | Date/Time<br>1320                                                                                                                                                       |  |
| (Printed)<br>Tom Palank                                                                                                                                                                                                                        |         | (Printed)<br>1320                                                                                                                                                                                                                                                                                                                                   |    | (Printed)<br>Tom Palank                                                                                                                                                                                                                                                                                                                                   |      | (Printed)<br>1320                                                                                                               |                   | (Printed)<br>Tom Palank                                                                                                                                                 |  | (Printed)<br>1320                                                                                                                                                                                                                                                                                                                                         |  | (Printed)<br>Tom Palank                                                                                                         |  | (Printed)<br>1320                                                                                                                                                       |  | (Printed)<br>Tom Palank                                                                                                                                                                                                                                                                                                                                   |  | (Printed)<br>1320                                                                                                               |             | (Printed)<br>Tom Palank                                                                                                                                                 |  |
| Relinquished by: (Signature)<br>                                                                                                                                                                                                               |         | Date/Time<br>7-23-24                                                                                                                                                                                                                                                                                                                                |    | Received by Lab: (Signature)<br>                                                                                                                                                                                                                                                                                                                          |      | Turn Around Time:                                                                                                               |                   | Lab Use:                                                                                                                                                                |  | Date/Time<br>13:18                                                                                                                                                                                                                                                                                                                                        |  | Received by Lab: (Signature)<br>                                                                                                |  | Turn Around Time:                                                                                                                                                       |  | Lab Use:                                                                                                                                                                                                                                                                                                                                                  |  | Date/Time<br>13:18                                                                                                              |             | Received by Lab: (Signature)<br>                                                                                                                                        |  |
| (Printed)<br>Tom Palank                                                                                                                                                                                                                        |         | (Printed)<br>7-23-24                                                                                                                                                                                                                                                                                                                                |    | (Printed)<br>Lori Foster                                                                                                                                                                                                                                                                                                                                  |      | (Printed)<br>Lori Foster                                                                                                        |                   | (Printed)<br>Lori Foster                                                                                                                                                |  | (Printed)<br>Lori Foster                                                                                                                                                                                                                                                                                                                                  |  | (Printed)<br>Lori Foster                                                                                                        |  | (Printed)<br>Lori Foster                                                                                                                                                |  | (Printed)<br>Lori Foster                                                                                                                                                                                                                                                                                                                                  |  | (Printed)<br>Lori Foster                                                                                                        |             | (Printed)<br>Lori Foster                                                                                                                                                |  |
| Delivery Method:<br><input checked="" type="checkbox"/> Courier<br><input type="checkbox"/> Client<br><input type="checkbox"/> UPS<br><input type="checkbox"/> FedEx<br><input type="checkbox"/> USPS<br><input type="checkbox"/> Other: _____ |         | Special Instructions/QC Requirements & Comments:<br>Please report to:<br>Bob Tworkowski <a href="mailto:btworkowski@tradepointatlantic.com">btworkowski@tradepointatlantic.com</a><br>Tom Palank <a href="mailto:TPalank@armgroup.net">TPalank@armgroup.net</a><br>Doug Hamilton <a href="mailto:DHamilton@armgroup.net">DHamilton@armgroup.net</a> |    | Turn Around Time:<br><input checked="" type="checkbox"/> Normal (7 day)<br><input type="checkbox"/> 5 day<br><input type="checkbox"/> 4 day<br><input type="checkbox"/> 3 day<br><input type="checkbox"/> Rush (2 day)<br><input type="checkbox"/> Next Day<br><input type="checkbox"/> Other: _____<br><input type="checkbox"/> Specific Due Date: _____ |      | Lab Use:<br>Temp: _____ °C<br><input type="checkbox"/> Received on Ice<br><input checked="" type="checkbox"/> Received same day |                   | Sample Disposal:<br><input type="checkbox"/> Return to Client<br><input checked="" type="checkbox"/> Disposal by lab<br><input type="checkbox"/> Archive for _____ days |  | Turn Around Time:<br><input checked="" type="checkbox"/> Normal (7 day)<br><input type="checkbox"/> 5 day<br><input type="checkbox"/> 4 day<br><input type="checkbox"/> 3 day<br><input type="checkbox"/> Rush (2 day)<br><input type="checkbox"/> Next Day<br><input type="checkbox"/> Other: _____<br><input type="checkbox"/> Specific Due Date: _____ |  | Lab Use:<br>Temp: _____ °C<br><input type="checkbox"/> Received on Ice<br><input checked="" type="checkbox"/> Received same day |  | Sample Disposal:<br><input type="checkbox"/> Return to Client<br><input checked="" type="checkbox"/> Disposal by lab<br><input type="checkbox"/> Archive for _____ days |  | Turn Around Time:<br><input checked="" type="checkbox"/> Normal (7 day)<br><input type="checkbox"/> 5 day<br><input type="checkbox"/> 4 day<br><input type="checkbox"/> 3 day<br><input type="checkbox"/> Rush (2 day)<br><input type="checkbox"/> Next Day<br><input type="checkbox"/> Other: _____<br><input type="checkbox"/> Specific Due Date: _____ |  | Lab Use:<br>Temp: _____ °C<br><input type="checkbox"/> Received on Ice<br><input checked="" type="checkbox"/> Received same day |             | Sample Disposal:<br><input type="checkbox"/> Return to Client<br><input checked="" type="checkbox"/> Disposal by lab<br><input type="checkbox"/> Archive for _____ days |  |

10 September 2024

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 08/29/24 12:55.

Maryland Spectral Services, Inc. is a TNI 2016 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2016 TNI certified except as indicated at the end of this report. Please visit our website at [www.mdspectral.com](http://www.mdspectral.com) for a complete listing of our TNI 2016 Standard accreditations.

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

Sincerely,



Rabecka Koons  
Quality Assurance Officer

## 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:  
09/10/24 08:20

| Client Sample ID | Alternate Sample ID | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|------------------|---------------------|---------------|--------|----------------|----------------|
| CELL 3 SVE INF   |                     | 4082916-01    | Vapor  | 08/29/24 10:20 | 08/29/24 12:55 |

*Rabecka Koons*

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.*

## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
09/10/24 08:20

### CELL 3 SVE INF

4082916-01RE1 (Vapor)  
Sampled on: 08/29/24 10:20

| Analyte                                                                        | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst     |
|--------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|-------------|
| <b>Volatile Organics by EPA 8260D (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |             |       |       |                          |                          |          |          |                | <b>QC-6</b> |
| Acetone                                                                        | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| tert-Amyl alcohol (TAA)                                                        | ND          |       | ug/L  | 2.00                     | 2.00                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| tert-Amyl ethyl ether (TAE)                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| tert-Amyl methyl ether (TAME)                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Benzene                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Bromobenzene                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Bromochloromethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Bromodichloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Bromoform                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Bromomethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| tert-Butanol (TBA)                                                             | ND          |       | ug/L  | 1.50                     | 1.50                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| 2-Butanone (MEK)                                                               | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| n-Butylbenzene                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| sec-Butylbenzene                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| tert-Butylbenzene                                                              | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Carbon disulfide                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Carbon tetrachloride                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Chlorobenzene                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| <b>Chloroethane</b>                                                            | <b>1.69</b> |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Chloroform                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| <b>Chloromethane</b>                                                           | <b>0.52</b> |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| 2-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| 4-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| 1,2-Dibromo-3-chloropropane                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Dibromochloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| 1,2-Dibromoethane (EDB)                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Dibromomethane                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| 1,2-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| 1,3-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| 1,4-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Dichlorodifluoromethane                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| <b>1,1-Dichloroethane</b>                                                      | <b>0.12</b> | J     | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| 1,2-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
09/10/24 08:20

### CELL 3 SVE INF

4082916-01RE1 (Vapor)  
Sampled on: 08/29/24 10:20

| Analyte                                                                                    | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst     |
|--------------------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|-------------|
| <b>Volatile Organics by EPA 8260D (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |       |       |                          |                          |          |          |                | <b>QC-6</b> |
| 1,1-Dichloroethene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| cis-1,2-Dichloroethene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| trans-1,2-Dichloroethene                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Dichlorofluoromethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| 1,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| 1,3-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| 2,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| 1,1-Dichloropropene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| cis-1,3-Dichloropropene                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| trans-1,3-Dichloropropene                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Diisopropyl ether (DIPE)                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Ethyl tert-butyl ether (ETBE)                                                              | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Ethylbenzene                                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Hexachlorobutadiene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| 2-Hexanone                                                                                 | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Isopropylbenzene (Cumene)                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| 4-Isopropyltoluene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Methyl tert-butyl ether (MTBE)                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| 4-Methyl-2-pentanone                                                                       | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Methylene chloride                                                                         | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Naphthalene                                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| n-Propylbenzene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Styrene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| 1,1,1,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| 1,1,2,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Tetrachloroethene                                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Toluene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| 1,2,3-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| 1,2,4-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| 1,1,1-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| 1,1,2-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Trichloroethene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |
| Trichlorofluoromethane (Freon 11)                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24 | 09/03/24 13:27 | LL          |

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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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:  
09/10/24 08:20

**CELL 3 SVE INF**

**4082916-01RE1 (Vapor)**  
**Sampled on: 08/29/24 10:20**

| Analyte                                                                                    | Result | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst     |
|--------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|-------------|
| <b>Volatile Organics by EPA 8260D (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |        |       |                          |                          |          |                |                | <b>QC-6</b> |
| 1,2,3-Trichloropropane                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24       | 09/03/24 13:27 | LL          |
| 1,2,4-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24       | 09/03/24 13:27 | LL          |
| 1,3,5-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24       | 09/03/24 13:27 | LL          |
| Vinyl chloride                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24       | 09/03/24 13:27 | LL          |
| o-Xylene                                                                                   | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24       | 09/03/24 13:27 | LL          |
| m- & p-Xylenes                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 09/03/24       | 09/03/24 13:27 | LL          |
| Surrogate: 1,2-Dichloroethane-d4                                                           |        | 70-130 |       | 105 %                    | 09/03/24                 |          | 09/03/24 13:27 |                |             |
| Surrogate: Toluene-d8                                                                      |        | 75-120 |       | 99 %                     | 09/03/24                 |          | 09/03/24 13:27 |                |             |
| Surrogate: 4-Bromofluorobenzene                                                            |        | 65-120 |       | 94 %                     | 09/03/24                 |          | 09/03/24 13:27 |                |             |

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
09/10/24 08:20

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) |

*Rabecka Koons*

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.*

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:  
09/10/24 08:20

### 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



Rabecka Koons, Quality Assurance Officer

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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:  
09/10/24 08:20

### Notes and Definitions

|          |                                                                                                                                                                               |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QC-6     | Sample was originally analyzed within hold time. Reanalysis was performed outside of recommended hold time and the reanalysis has been reported.                              |
| 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.

*Rabecka Koons*

Rabecka Koons, Quality Assurance Officer

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09 October 2024

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 09/30/24 13:52.

Maryland Spectral Services, Inc. is a TNI 2016 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2016 TNI certified except as indicated at the end of this report. Please visit our website at [www.mdspectral.com](http://www.mdspectral.com) for a complete listing of our TNI 2016 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:  
10/09/24 08:58

| Client Sample ID | Alternate Sample ID | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|------------------|---------------------|---------------|--------|----------------|----------------|
| CELL 3 SVE INF   |                     | 4093013-01    | Vapor  | 09/30/24 13:10 | 09/30/24 13:52 |



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:  
10/09/24 08:58

### CELL 3 SVE INF

4093013-01 (Vapor)

Sampled on: 09/30/24 13:10

| Analyte                                                                        | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260D (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |        |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| tert-Amyl alcohol (TAA)                                                        | ND     |       | ug/L  | 2.00                     | 2.00                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| tert-Amyl ethyl ether (TAAE)                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| tert-Amyl methyl ether (TAME)                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Benzene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Bromobenzene                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Bromochloromethane                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Bromodichloromethane                                                           | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Bromoform                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Bromomethane                                                                   | ND     |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| tert-Butanol (TBA)                                                             | ND     |       | ug/L  | 1.50                     | 1.50                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 2-Butanone (MEK)                                                               | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| n-Butylbenzene                                                                 | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| sec-Butylbenzene                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| tert-Butylbenzene                                                              | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Carbon disulfide                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Carbon tetrachloride                                                           | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Chlorobenzene                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Chloroethane                                                                   | ND     |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Chloroform                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Chloromethane                                                                  | ND     |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 2-Chlorotoluene                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 4-Chlorotoluene                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 1,2-Dibromo-3-chloropropane                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Dibromochloromethane                                                           | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 1,2-Dibromoethane (EDB)                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Dibromomethane                                                                 | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 1,2-Dichlorobenzene                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 1,3-Dichlorobenzene                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 1,4-Dichlorobenzene                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Dichlorodifluoromethane                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 1,1-Dichloroethane                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 1,2-Dichloroethane                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | 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:  
10/09/24 08:58

### CELL 3 SVE INF

4093013-01 (Vapor)  
Sampled on: 09/30/24 13:10

| Analyte                                                                                    | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260D (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| cis-1,2-Dichloroethene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| trans-1,2-Dichloroethene                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Dichlorofluoromethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 1,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 1,3-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 2,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 1,1-Dichloropropene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| cis-1,3-Dichloropropene                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| trans-1,3-Dichloropropene                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Diisopropyl ether (DIPE)                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Ethyl tert-butyl ether (ETBE)                                                              | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Ethylbenzene                                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Hexachlorobutadiene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 2-Hexanone                                                                                 | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Isopropylbenzene (Cumene)                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 4-Isopropyltoluene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Methyl tert-butyl ether (MTBE)                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 4-Methyl-2-pentanone                                                                       | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Methylene chloride                                                                         | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Naphthalene                                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| n-Propylbenzene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Styrene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 1,1,1,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 1,1,2,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Tetrachloroethene                                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Toluene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 1,2,3-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 1,2,4-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 1,1,1-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| 1,1,2-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Trichloroethene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | LL      |
| Trichlorofluoromethane (Freon 11)                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24 | 10/01/24 13:51 | 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:  
10/09/24 08:58

### CELL 3 SVE INF

4093013-01 (Vapor)

Sampled on: 09/30/24 13:10

| Analyte                                                                                    | Result | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260D (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24       | 10/01/24 13:51 | LL      |
| 1,2,4-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24       | 10/01/24 13:51 | LL      |
| 1,3,5-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24       | 10/01/24 13:51 | LL      |
| Vinyl chloride                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24       | 10/01/24 13:51 | LL      |
| o-Xylene                                                                                   | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24       | 10/01/24 13:51 | LL      |
| m- & p-Xylenes                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 10/01/24       | 10/01/24 13:51 | LL      |
| Surrogate: 1,2-Dichloroethane-d4                                                           |        | 70-130 |       | 104 %                    | 10/01/24                 |          | 10/01/24 13:51 |                |         |
| Surrogate: Toluene-d8                                                                      |        | 75-120 |       | 99 %                     | 10/01/24                 |          | 10/01/24 13:51 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |        | 65-120 |       | 93 %                     | 10/01/24                 |          | 10/01/24 13:51 |                |         |

Will Brewington, President

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
10/09/24 08:58

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

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:  
10/09/24 08:58

### 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:  
10/09/24 08:58

### Notes and Definitions

|          |                                                                                                                                                                               |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S-98     | Spike recovery of this analyte exceeds established laboratory control limits. Sample results may exhibit a bias.                                                              |
| 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:<br>Tradepoint Atlantic                                                                                                                                                                                                           |  | Company Address:<br>6995 Bethlehem Blvd, Suite 100<br>Baltimore, MD 21219                                                                                                                                                                                                                                                                           |      |                                 |       |      |    | Analysis Requested                                                                                                                                                                                                                                                                                 |   |   |  |                                                                                                                    |  |                          |  | CHAIN-OF-CUSTODY RECORD<br><br>Maryland Spectral Services, Inc.<br>1500 Caton Center Drive, Suite G<br>Baltimore, MD 21227<br>410-247-7600 • Fax 410-247-7602<br>reporting@mdspectral.com |                                                                            |             |            |  |              |
| Project Name:<br>Sparrows Point IM                                                                                                                                                                                                             |  | Project Manager:<br>Bob Tworkowski<br>(443) 649-5073                                                                                                                                                                                                                                                                                                |      |                                 |       |      |    |                                                                                                                                                                                                                                                                                                    |   |   |  |                                                                                                                    |  |                          |  |                                                                                                                                                                                           |                                                                            |             |            |  |              |
| Sampler(s):<br>Tom Palank/ARM Group<br>(443) 995-5125                                                                                                                                                                                          |  | Attention/Invoice:<br><a href="mailto:ap@tradepointatlantic.com">ap@tradepointatlantic.com</a>                                                                                                                                                                                                                                                      |      |                                 |       |      |    | No. of Containers<br><br>FULL SUITE VOCs +<br>NAPHTHALENE 8260                                                                                                                                                                                                                                     |   |   |  |                                                                                                                    |  |                          |  |                                                                                                                                                                                           | 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                                                                                                                                                                                                                                 |  | 9/30/24                                                                                                                                                                                                                                                                                                                                             | 1310 |                                 |       |      | X  |                                                                                                                                                                                                                                                                                                    | 1 | X |  |                                                                                                                    |  |                          |  |                                                                                                                                                                                           |                                                                            |             |            |  | 4093013-01 A |
|                                                                                                                                                                                                                                                |  |                                                                                                                                                                                                                                                                                                                                                     |      |                                 |       |      |    |                                                                                                                                                                                                                                                                                                    |   |   |  |                                                                                                                    |  |                          |  |                                                                                                                                                                                           |                                                                            |             |            |  |              |
|                                                                                                                                                                                                                                                |  |                                                                                                                                                                                                                                                                                                                                                     |      |                                 |       |      |    |                                                                                                                                                                                                                                                                                                    |   |   |  |                                                                                                                    |  |                          |  |                                                                                                                                                                                           |                                                                            |             |            |  |              |
|                                                                                                                                                                                                                                                |  |                                                                                                                                                                                                                                                                                                                                                     |      |                                 |       |      |    |                                                                                                                                                                                                                                                                                                    |   |   |  |                                                                                                                    |  |                          |  |                                                                                                                                                                                           |                                                                            |             |            |  |              |
|                                                                                                                                                                                                                                                |  |                                                                                                                                                                                                                                                                                                                                                     |      |                                 |       |      |    |                                                                                                                                                                                                                                                                                                    |   |   |  |                                                                                                                    |  |                          |  |                                                                                                                                                                                           |                                                                            |             |            |  |              |
|                                                                                                                                                                                                                                                |  |                                                                                                                                                                                                                                                                                                                                                     |      |                                 |       |      |    |                                                                                                                                                                                                                                                                                                    |   |   |  |                                                                                                                    |  |                          |  |                                                                                                                                                                                           |                                                                            |             |            |  |              |
|                                                                                                                                                                                                                                                |  |                                                                                                                                                                                                                                                                                                                                                     |      |                                 |       |      |    |                                                                                                                                                                                                                                                                                                    |   |   |  |                                                                                                                    |  |                          |  |                                                                                                                                                                                           |                                                                            |             |            |  |              |
|                                                                                                                                                                                                                                                |  |                                                                                                                                                                                                                                                                                                                                                     |      |                                 |       |      |    |                                                                                                                                                                                                                                                                                                    |   |   |  |                                                                                                                    |  |                          |  |                                                                                                                                                                                           |                                                                            |             |            |  |              |
|                                                                                                                                                                                                                                                |  |                                                                                                                                                                                                                                                                                                                                                     |      |                                 |       |      |    |                                                                                                                                                                                                                                                                                                    |   |   |  |                                                                                                                    |  |                          |  |                                                                                                                                                                                           |                                                                            |             |            |  |              |
|                                                                                                                                                                                                                                                |  |                                                                                                                                                                                                                                                                                                                                                     |      |                                 |       |      |    |                                                                                                                                                                                                                                                                                                    |   |   |  |                                                                                                                    |  |                          |  |                                                                                                                                                                                           |                                                                            |             |            |  |              |
|                                                                                                                                                                                                                                                |  |                                                                                                                                                                                                                                                                                                                                                     |      |                                 |       |      |    |                                                                                                                                                                                                                                                                                                    |   |   |  |                                                                                                                    |  |                          |  |                                                                                                                                                                                           |                                                                            |             |            |  |              |
| Relinquished by: (Signature)<br><i>Thomas Palank</i>                                                                                                                                                                                           |  | Date/Time<br>9/30/24                                                                                                                                                                                                                                                                                                                                |      | Received by: (Signature)        |       |      |    | Relinquished by: (Signature)                                                                                                                                                                                                                                                                       |   |   |  | Date/Time                                                                                                          |  | Received by: (Signature) |  |                                                                                                                                                                                           |                                                                            |             |            |  |              |
| (Printed)<br>Thomas Palank                                                                                                                                                                                                                     |  | 1352                                                                                                                                                                                                                                                                                                                                                |      | (Printed)                       |       |      |    | (Printed)                                                                                                                                                                                                                                                                                          |   |   |  |                                                                                                                    |  | (Printed)                |  |                                                                                                                                                                                           |                                                                            |             |            |  |              |
| Relinquished by: (Signature)                                                                                                                                                                                                                   |  | Date/Time                                                                                                                                                                                                                                                                                                                                           |      | Received by Lab: (Signature)    |       |      |    | Turn Around Time:                                                                                                                                                                                                                                                                                  |   |   |  | Lab Use:                                                                                                           |  |                          |  |                                                                                                                                                                                           |                                                                            |             |            |  |              |
| (Printed)                                                                                                                                                                                                                                      |  | 9-30-24                                                                                                                                                                                                                                                                                                                                             |      | (Printed)<br><i>Lori Foster</i> |       |      |    | X Normal (7 day)<br><input type="checkbox"/> 5 day<br><input type="checkbox"/> 4 day<br><input type="checkbox"/> 3 day<br><input type="checkbox"/> Rush (2 day)<br><input type="checkbox"/> Next Day<br><input type="checkbox"/> Other: _____<br><input type="checkbox"/> Specific Due Date: _____ |   |   |  | Temp: ____ °C<br><input type="checkbox"/> Received on Ice<br><input checked="" type="checkbox"/> Received same day |  |                          |  |                                                                                                                                                                                           |                                                                            |             |            |  |              |
| Delivery Method:<br><input checked="" type="checkbox"/> Courier<br><input type="checkbox"/> Client<br><input type="checkbox"/> UPS<br><input type="checkbox"/> FedEx<br><input type="checkbox"/> USPS<br><input type="checkbox"/> Other: _____ |  | Special Instructions/QC Requirements & Comments:<br>Please report to:<br>Bob Tworkowski <a href="mailto:btworkowski@tradepointatlantic.com">btworkowski@tradepointatlantic.com</a><br>Tom Palank <a href="mailto:TPalank@armgroup.net">TPalank@armgroup.net</a><br>Doug Hamilton <a href="mailto:DHamilton@armgroup.net">DHamilton@armgroup.net</a> |      |                                 |       |      |    |                                                                                                                                                                                                                                                                                                    |   |   |  |                                                                                                                    |  |                          |  | Sample Disposal:<br><input type="checkbox"/> Return to Client<br><input type="checkbox"/> Disposal by lab<br><input type="checkbox"/> Archive for ____ days                               |                                                                            |             |            |  |              |

06 December 2024

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 11/27/24 12:10.

Maryland Spectral Services, Inc. is a TNI 2016 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2016 TNI certified except as indicated at the end of this report. Please visit our website at [www.mdspectral.com](http://www.mdspectral.com) for a complete listing of our TNI 2016 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:  
12/06/24 11:09

| Client Sample ID | Alternate Sample ID | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|------------------|---------------------|---------------|--------|----------------|----------------|
| CELL 1 INF       |                     | 4112719-01    | Vapor  | 11/27/24 11:20 | 11/27/24 12:10 |
| CELL 3 INF       |                     | 4112719-02    | Vapor  | 11/27/24 10:55 | 11/27/24 12:10 |



Will Brewington, President

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworowski

Reported:  
12/06/24 11:09

#### CELL 1 INF

4112719-01 (Vapor)

Sampled on: 11/27/24 11:20

| Analyte                                                                        | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260D (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |             |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| tert-Amyl alcohol (TAA)                                                        | ND          |       | ug/L  | 2.00                     | 2.00                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| tert-Amyl ethyl ether (TAAE)                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| tert-Amyl methyl ether (TAME)                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| <b>Benzene</b>                                                                 | <b>0.25</b> |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Bromobenzene                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Bromochloromethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Bromodichloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Bromoform                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Bromomethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| tert-Butanol (TBA)                                                             | ND          |       | ug/L  | 1.50                     | 1.50                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 2-Butanone (MEK)                                                               | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| n-Butylbenzene                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| sec-Butylbenzene                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| tert-Butylbenzene                                                              | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Carbon disulfide                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Carbon tetrachloride                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Chlorobenzene                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Chloroethane                                                                   | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Chloroform                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Chloromethane                                                                  | ND          |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 2-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 4-Chlorotoluene                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 1,2-Dibromo-3-chloropropane                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Dibromochloromethane                                                           | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 1,2-Dibromoethane (EDB)                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Dibromomethane                                                                 | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 1,2-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 1,3-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 1,4-Dichlorobenzene                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Dichlorodifluoromethane                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 1,1-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 1,2-Dichloroethane                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | 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:  
12/06/24 11:09

### CELL 1 INF

4112719-01 (Vapor)

Sampled on: 11/27/24 11:20

| Analyte                                                                                    | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260D (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |             |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| cis-1,2-Dichloroethene                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| trans-1,2-Dichloroethene                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Dichlorofluoromethane                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 1,2-Dichloropropane                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 1,3-Dichloropropane                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 2,2-Dichloropropane                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 1,1-Dichloropropene                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| cis-1,3-Dichloropropene                                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| trans-1,3-Dichloropropene                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Diisopropyl ether (DIPE)                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Ethyl tert-butyl ether (ETBE)                                                              | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Ethylbenzene                                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Hexachlorobutadiene                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 2-Hexanone                                                                                 | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Isopropylbenzene (Cumene)                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 4-Isopropyltoluene                                                                         | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Methyl tert-butyl ether (MTBE)                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 4-Methyl-2-pentanone                                                                       | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Methylene chloride                                                                         | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Naphthalene                                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| n-Propylbenzene                                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Styrene                                                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 1,1,1,2-Tetrachloroethane                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 1,1,2,2-Tetrachloroethane                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Tetrachloroethene                                                                          | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| <b>Toluene</b>                                                                             | <b>0.16</b> | J     | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 1,2,3-Trichlorobenzene                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 1,2,4-Trichlorobenzene                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 1,1,1-Trichloroethane                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| 1,1,2-Trichloroethane                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Trichloroethene                                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |
| Trichlorofluoromethane (Freon 11)                                                          | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 13:49 | LL      |

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
12/06/24 11:09

### CELL 1 INF

4112719-01 (Vapor)

Sampled on: 11/27/24 11:20

| Analyte                                                                                    | Result | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260D (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24       | 11/27/24 13:49 | LL      |
| 1,2,4-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24       | 11/27/24 13:49 | LL      |
| 1,3,5-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24       | 11/27/24 13:49 | LL      |
| Vinyl chloride                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24       | 11/27/24 13:49 | LL      |
| o-Xylene                                                                                   | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24       | 11/27/24 13:49 | LL      |
| m- & p-Xylenes                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24       | 11/27/24 13:49 | LL      |
| Surrogate: 1,2-Dichloroethane-d4                                                           |        | 70-130 |       | 117 %                    | 11/27/24                 |          | 11/27/24 13:49 |                |         |
| Surrogate: Toluene-d8                                                                      |        | 75-120 |       | 102 %                    | 11/27/24                 |          | 11/27/24 13:49 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |        | 65-120 |       | 99 %                     | 11/27/24                 |          | 11/27/24 13:49 |                |         |



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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworowski

Reported:  
12/06/24 11:09

### CELL 3 INF

4112719-02 (Vapor)

Sampled on: 11/27/24 10:55

| Analyte                                                                        | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260D (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |        |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| tert-Amyl alcohol (TAA)                                                        | ND     |       | ug/L  | 2.00                     | 2.00                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| tert-Amyl ethyl ether (TAAE)                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| tert-Amyl methyl ether (TAME)                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Benzene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Bromobenzene                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Bromochloromethane                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Bromodichloromethane                                                           | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Bromoform                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Bromomethane                                                                   | ND     |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| tert-Butanol (TBA)                                                             | ND     |       | ug/L  | 1.50                     | 1.50                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 2-Butanone (MEK)                                                               | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| n-Butylbenzene                                                                 | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| sec-Butylbenzene                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| tert-Butylbenzene                                                              | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Carbon disulfide                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Carbon tetrachloride                                                           | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Chlorobenzene                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Chloroethane                                                                   | ND     |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Chloroform                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Chloromethane                                                                  | ND     |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 2-Chlorotoluene                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 4-Chlorotoluene                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 1,2-Dibromo-3-chloropropane                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Dibromochloromethane                                                           | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 1,2-Dibromoethane (EDB)                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Dibromomethane                                                                 | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 1,2-Dichlorobenzene                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 1,3-Dichlorobenzene                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 1,4-Dichlorobenzene                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Dichlorodifluoromethane                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 1,1-Dichloroethane                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 1,2-Dichloroethane                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |

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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
12/06/24 11:09

### CELL 3 INF

4112719-02 (Vapor)

Sampled on: 11/27/24 10:55

| Analyte                                                                                    | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260D (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| cis-1,2-Dichloroethene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| trans-1,2-Dichloroethene                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Dichlorofluoromethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 1,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 1,3-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 2,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 1,1-Dichloropropene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| cis-1,3-Dichloropropene                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| trans-1,3-Dichloropropene                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Diisopropyl ether (DIPE)                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Ethyl tert-butyl ether (ETBE)                                                              | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Ethylbenzene                                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Hexachlorobutadiene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 2-Hexanone                                                                                 | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Isopropylbenzene (Cumene)                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 4-Isopropyltoluene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Methyl tert-butyl ether (MTBE)                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 4-Methyl-2-pentanone                                                                       | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Methylene chloride                                                                         | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Naphthalene                                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| n-Propylbenzene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Styrene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 1,1,1,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 1,1,2,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Tetrachloroethene                                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Toluene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 1,2,3-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 1,2,4-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 1,1,1-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| 1,1,2-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Trichloroethene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |
| Trichlorofluoromethane (Freon 11)                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24 | 11/27/24 14:14 | LL      |

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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:  
12/06/24 11:09

**CELL 3 INF**

**4112719-02 (Vapor)**

**Sampled on: 11/27/24 10:55**

| Analyte                                                                                    | Result | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260D (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24       | 11/27/24 14:14 | LL      |
| 1,2,4-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24       | 11/27/24 14:14 | LL      |
| 1,3,5-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24       | 11/27/24 14:14 | LL      |
| Vinyl chloride                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24       | 11/27/24 14:14 | LL      |
| o-Xylene                                                                                   | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24       | 11/27/24 14:14 | LL      |
| m- & p-Xylenes                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 11/27/24       | 11/27/24 14:14 | LL      |
| Surrogate: 1,2-Dichloroethane-d4                                                           |        | 70-130 |       | 120 %                    | 11/27/24                 |          | 11/27/24 14:14 |                |         |
| Surrogate: Toluene-d8                                                                      |        | 75-120 |       | 102 %                    | 11/27/24                 |          | 11/27/24 14:14 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |        | 65-120 |       | 98 %                     | 11/27/24                 |          | 11/27/24 14:14 |                |         |



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## Analytical Results

### Project: SPARROWS POINT IM

Project Number: [none]  
Project Manager: Bob Tworkowski

Reported:  
12/06/24 11:09

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

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:  
12/06/24 11:09

### 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:  
12/06/24 11:09

### Notes and Definitions

|          |                                                                                                                                                                               |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S-98     | Spike recovery of this analyte is outside established laboratory control limits. Sample results may exhibit a bias.                                                           |
| 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.*

Page 12 of 12

08 January 2025

Thomas Palank  
ARM Group  
9175 Guilford Rd Suite 310  
Columbia, MD 21046  
RE: Coke Oven

Enclosed are the results of analyses for samples received by the laboratory on 12/30/24 14:22.

Maryland Spectral Services, Inc. is a TNI 2016 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2016 TNI certified except as indicated at the end of this report. Please visit our website at [www.mdspectral.com](http://www.mdspectral.com) for a complete listing of our TNI 2016 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: Coke Oven**

Project Number: INF Samples  
Project Manager: Thomas Palank

Reported:  
01/08/25 11:38

| Client Sample ID | Alternate Sample ID | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|------------------|---------------------|---------------|--------|----------------|----------------|
| CELL 5 INF       |                     | 4123009-01    | Vapor  | 12/30/24 12:50 | 12/30/24 14:22 |
| CELL 3 INF       |                     | 4123009-02    | Vapor  | 12/30/24 13:50 | 12/30/24 14:22 |



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.*

**Project: Coke Oven**

Project Number: INF Samples  
Project Manager: Thomas Palank

Reported:  
01/08/25 11:38

## Analytical Results

**CELL 5 INF**

**4123009-01 (Vapor)**

**Sampled on: 12/30/24 12:50**

| Analyte                                                                        | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260D (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |        |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| tert-Amyl alcohol (TAA)                                                        | ND     |       | ug/L  | 2.00                     | 2.00                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| tert-Amyl ethyl ether (TAAE)                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| tert-Amyl methyl ether (TAME)                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Benzene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Bromobenzene                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Bromochloromethane                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Bromodichloromethane                                                           | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Bromoform                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Bromomethane                                                                   | ND     |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| tert-Butanol (TBA)                                                             | ND     |       | ug/L  | 1.50                     | 1.50                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 2-Butanone (MEK)                                                               | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| n-Butylbenzene                                                                 | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| sec-Butylbenzene                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| tert-Butylbenzene                                                              | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Carbon disulfide                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Carbon tetrachloride                                                           | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Chlorobenzene                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Chloroethane                                                                   | ND     |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Chloroform                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Chloromethane                                                                  | ND     |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 2-Chlorotoluene                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 4-Chlorotoluene                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 1,2-Dibromo-3-chloropropane                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Dibromochloromethane                                                           | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 1,2-Dibromoethane (EDB)                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Dibromomethane                                                                 | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 1,2-Dichlorobenzene                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 1,3-Dichlorobenzene                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 1,4-Dichlorobenzene                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Dichlorodifluoromethane                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 1,1-Dichloroethane                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 1,2-Dichloroethane                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |

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Will Brewington, President

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## Analytical Results

### Project: Coke Oven

Project Number: INF Samples  
Project Manager: Thomas Palank

Reported:  
01/08/25 11:38

### CELL 5 INF

4123009-01 (Vapor)  
Sampled on: 12/30/24 12:50

| Analyte                                                                                    | Result      | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|-------------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260D (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |             |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| cis-1,2-Dichloroethene                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| trans-1,2-Dichloroethene                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Dichlorofluoromethane                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 1,2-Dichloropropane                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 1,3-Dichloropropane                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 2,2-Dichloropropane                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 1,1-Dichloropropene                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| cis-1,3-Dichloropropene                                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| trans-1,3-Dichloropropene                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Diisopropyl ether (DIPE)                                                                   | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Ethyl tert-butyl ether (ETBE)                                                              | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Ethylbenzene                                                                               | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Hexachlorobutadiene                                                                        | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 2-Hexanone                                                                                 | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Isopropylbenzene (Cumene)                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 4-Isopropyltoluene                                                                         | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Methyl tert-butyl ether (MTBE)                                                             | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 4-Methyl-2-pentanone                                                                       | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Methylene chloride                                                                         | ND          |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Naphthalene                                                                                | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| n-Propylbenzene                                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Styrene                                                                                    | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 1,1,1,2-Tetrachloroethane                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 1,1,2,2-Tetrachloroethane                                                                  | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Tetrachloroethene                                                                          | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| <b>Toluene</b>                                                                             | <b>0.11</b> | J     | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 1,2,3-Trichlorobenzene                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 1,2,4-Trichlorobenzene                                                                     | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 1,1,1-Trichloroethane                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| 1,1,2-Trichloroethane                                                                      | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Trichloroethene                                                                            | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |
| Trichlorofluoromethane (Freon 11)                                                          | ND          |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 10:56 | LL      |

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Will Brewington, President

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## Analytical Results

### Project: Coke Oven

Project Number: INF Samples

Project Manager: Thomas Palank

### CELL 5 INF

4123009-01 (Vapor)

Sampled on: 12/30/24 12:50

| Analyte                                                                                    | Result      | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|-------------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260D (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |             |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND          |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24       | 12/31/24 10:56 | LL      |
| 1,2,4-Trimethylbenzene                                                                     | ND          |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24       | 12/31/24 10:56 | LL      |
| 1,3,5-Trimethylbenzene                                                                     | ND          |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24       | 12/31/24 10:56 | LL      |
| Vinyl chloride                                                                             | ND          |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24       | 12/31/24 10:56 | LL      |
| o-Xylene                                                                                   | ND          |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24       | 12/31/24 10:56 | LL      |
| <b>m- &amp; p-Xylenes</b>                                                                  | <b>0.11</b> | J      | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24       | 12/31/24 10:56 | LL      |
| Surrogate: 1,2-Dichloroethane-d4                                                           |             | 70-130 |       | 107 %                    | 12/31/24                 |          | 12/31/24 10:56 |                |         |
| Surrogate: Toluene-d8                                                                      |             | 75-120 |       | 99 %                     | 12/31/24                 |          | 12/31/24 10:56 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |             | 65-120 |       | 101 %                    | 12/31/24                 |          | 12/31/24 10:56 |                |         |



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.

**Project: Coke Oven**

Project Number: INF Samples  
Project Manager: Thomas Palank

Reported:

01/08/25 11:38

# Analytical Results

## CELL 3 INF

4123009-02 (Vapor)

Sampled on: 12/30/24 13:50

| Analyte                                                                        | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260D (GC/MS) Prepared by GCMS-VAPOR-VOLATILES</b> |        |       |       |                          |                          |          |          |                |         |
| Acetone                                                                        | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| tert-Amyl alcohol (TAA)                                                        | ND     |       | ug/L  | 2.00                     | 2.00                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| tert-Amyl ethyl ether (TAAE)                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| tert-Amyl methyl ether (TAME)                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Benzene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Bromobenzene                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Bromochloromethane                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Bromodichloromethane                                                           | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Bromoform                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Bromomethane                                                                   | ND     |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| tert-Butanol (TBA)                                                             | ND     |       | ug/L  | 1.50                     | 1.50                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 2-Butanone (MEK)                                                               | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| n-Butylbenzene                                                                 | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| sec-Butylbenzene                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| tert-Butylbenzene                                                              | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Carbon disulfide                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Carbon tetrachloride                                                           | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Chlorobenzene                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Chloroethane                                                                   | ND     |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Chloroform                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Chloromethane                                                                  | ND     |       | ug/L  | 0.50                     | 0.50                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 2-Chlorotoluene                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 4-Chlorotoluene                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 1,2-Dibromo-3-chloropropane                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Dibromochloromethane                                                           | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 1,2-Dibromoethane (EDB)                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Dibromomethane                                                                 | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 1,2-Dichlorobenzene                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 1,3-Dichlorobenzene                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 1,4-Dichlorobenzene                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Dichlorodifluoromethane                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 1,1-Dichloroethane                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 1,2-Dichloroethane                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |

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## Analytical Results

### Project: Coke Oven

Project Number: INF Samples  
Project Manager: Thomas Palank

Reported:  
01/08/25 11:38

### CELL 3 INF

4123009-02 (Vapor)  
Sampled on: 12/30/24 13:50

| Analyte                                                                                    | Result | Notes | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|-------|-------|--------------------------|--------------------------|----------|----------|----------------|---------|
| <b>Volatile Organics by EPA 8260D (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |       |       |                          |                          |          |          |                |         |
| 1,1-Dichloroethene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| cis-1,2-Dichloroethene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| trans-1,2-Dichloroethene                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Dichlorofluoromethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 1,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 1,3-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 2,2-Dichloropropane                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 1,1-Dichloropropene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| cis-1,3-Dichloropropene                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| trans-1,3-Dichloropropene                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Diisopropyl ether (DIPE)                                                                   | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Ethyl tert-butyl ether (ETBE)                                                              | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Ethylbenzene                                                                               | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Hexachlorobutadiene                                                                        | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 2-Hexanone                                                                                 | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Isopropylbenzene (Cumene)                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 4-Isopropyltoluene                                                                         | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Methyl tert-butyl ether (MTBE)                                                             | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 4-Methyl-2-pentanone                                                                       | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Methylene chloride                                                                         | ND     |       | ug/L  | 1.00                     | 1.00                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Naphthalene                                                                                | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| n-Propylbenzene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Styrene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 1,1,1,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 1,1,2,2-Tetrachloroethane                                                                  | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Tetrachloroethene                                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Toluene                                                                                    | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 1,2,3-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 1,2,4-Trichlorobenzene                                                                     | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 1,1,1-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| 1,1,2-Trichloroethane                                                                      | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Trichloroethene                                                                            | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |
| Trichlorofluoromethane (Freon 11)                                                          | ND     |       | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24 | 12/31/24 11:21 | LL      |

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## Analytical Results

### Project: Coke Oven

Project Number: INF Samples

Project Manager: Thomas Palank

### CELL 3 INF

4123009-02 (Vapor)

Sampled on: 12/30/24 13:50

| Analyte                                                                                    | Result | Notes  | Units | Reporting<br>Limit (MRL) | Detection<br>Limit (LOD) | Dilution | Prepared       | Analyzed       | Analyst |
|--------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------|--------------------------|----------|----------------|----------------|---------|
| <b>Volatile Organics by EPA 8260D (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)</b> |        |        |       |                          |                          |          |                |                |         |
| 1,2,3-Trichloropropane                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24       | 12/31/24 11:21 | LL      |
| 1,2,4-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24       | 12/31/24 11:21 | LL      |
| 1,3,5-Trimethylbenzene                                                                     | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24       | 12/31/24 11:21 | LL      |
| Vinyl chloride                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24       | 12/31/24 11:21 | LL      |
| o-Xylene                                                                                   | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24       | 12/31/24 11:21 | LL      |
| m- & p-Xylenes                                                                             | ND     |        | ug/L  | 0.20                     | 0.10                     | 0.1      | 12/31/24       | 12/31/24 11:21 | LL      |
| Surrogate: 1,2-Dichloroethane-d4                                                           |        | 70-130 |       | 107 %                    | 12/31/24                 |          | 12/31/24 11:21 |                |         |
| Surrogate: Toluene-d8                                                                      |        | 75-120 |       | 101 %                    | 12/31/24                 |          | 12/31/24 11:21 |                |         |
| Surrogate: 4-Bromofluorobenzene                                                            |        | 65-120 |       | 101 %                    | 12/31/24                 |          | 12/31/24 11:21 |                |         |



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## Analytical Results

### Project: Coke Oven

Project Number: INF Samples  
Project Manager: Thomas Palank

Reported:  
01/08/25 11:38

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

1500 Caton Center Dr Suite G  
Baltimore MD 21227  
410-247-7600  
www.mdspectral.com

**Project: Coke Oven**

Project Number: INF Samples  
Project Manager: Thomas Palank

Reported:  
01/08/25 11:38

### 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



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## Analytical Results

### Project: Coke Oven

Project Number: INF Samples

Project Manager: Thomas Palank

### 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.



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## **APPENDIX B**

### **2024 Groundwater Sampling Purge Logs**

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# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: **C093-P2M**

Project Name: COA GW Q1 2024

Well Diameter (in):

Project Number: 21010210

Depth to Product (ft):

Date: **3/12**

Depth to Water (ft): **9.89**

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min)

Depth to Bottom (ft):

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 |
|------|-------------------------|------------|------------------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1420 |                         |            | 20.00            | 8.27            | 0.789                             | 0.24                          | -359          | 9.10                         |          |
| 1425 |                         | 9.94       | 19.81            | 8.86            | 0.809                             | 0.22                          | -392          | 3.48                         |          |
| 1430 |                         |            | 19.73            | 9.64            | 0.834                             | 0.20                          | -449          | 2.81                         |          |
| 1435 |                         | 9.95       | 19.91            | 9.87            | 0.855                             | 0.19                          | -433          | 2.40                         |          |
| 1440 |                         | 20.29      | <del>19.88</del> | 10.25           | 0.998                             | 0.23                          | -448          | 2.11                         |          |
| 1445 |                         |            | 19.71            | 10.24           | 1.02                              | 0.33                          | -457          | 1.22                         |          |
| 1450 |                         |            | 19.70            | 10.26           | 1.09                              | 0.35                          | -460          | 1.14                         |          |
|      |                         |            |                  |                 |                                   |                               |               |                              |          |
|      |                         |            |                  |                 |                                   |                               |               |                              |          |
|      |                         |            |                  |                 |                                   |                               |               |                              |          |
|      |                         |            |                  |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

|                                    |            |                                       |            |                                                                                                                 |  |
|------------------------------------|------------|---------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------|--|
| Sample ID                          |            | Time Collected                        |            | Well Inspection                                                                                                 |  |
| C093-P2M                           |            | 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                            |            |                                       |            | Unsure: 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,                         |            | 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                                                                       |  |
|                                    |            |                                       |            | Well is blocked and is not able to be used                                                                      |  |
|                                    |            |                                       |            | Cap is present                                                                                                  |  |
|                                    |            |                                       |            | Well permit is present                                                                                          |  |
| Sampled By                         |            | Comments:                             |            |                                                                                                                 |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: C037-P2M038

Project Name: COA GW Q1 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft): 2

Date: 3/1/24

Depth to Water (ft): 11.79

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) 500

Depth to Bottom (ft):

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1425 |                         |            | 15.05     | 11.08           | 2.47                              | 0.42                          | -238          | 0.64                         |          |
| 1430 |                         | 11.95      | 15.19     | 11.10           | 2.52                              | 0.49                          | -263          | 0.51                         |          |
| 1435 |                         | 11.95      | 15.29     | 11.11           | 2.52                              | 0.34                          | -285          | 0.83                         |          |
| 1440 |                         | 11.95      | 15.37     | 11.13           | 2.53                              | 0.22                          | -299          | 0.58                         | 7        |
| 1445 |                         |            | 15.40     | 11.14           | 2.54                              | 0.22                          | -304          | 0.51                         |          |
| 1450 |                         |            | 15.39     | 11.15           | 2.54                              | 0.20                          | -312          | 0.01                         | C        |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID |  | Time Collected |  | Well Inspection                                                                                                 |  |
|-----------|--|----------------|--|-----------------------------------------------------------------------------------------------------------------|--|
|           |  | A55            |  | 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 \_\_\_\_\_



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: C024-P2M007

Project Name: COA GW Q1 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft): 13.97

Date: 3/11/24

Depth to Water (ft): 13.97

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) 360

Depth to Bottom (ft):

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1145 |                         |            | 14.77     | 6.29            | 1.64                              | 1.43                          | 194           | 2.04                         |          |
| 1150 |                         | 14.39      | 14.56     | 8.74            | 1.65                              | 0.72                          | 98            | 1.85                         |          |
| 1155 |                         |            | 14.61     | 8.94            | 1.82                              | 0.62                          | 40            | 1.55                         |          |
| 1200 |                         | 14.40      | 14.62     | 8.98            | 1.94                              | 0.58                          | -14           | 1.30                         |          |
| 1205 |                         |            | 14.70     | 9.00            | 2.09                              | 0.54                          | -60           | 1.49                         |          |
| 1210 |                         | 14.40      | 14.80     | 9.00            | 2.08                              | 0.51                          | -70           | 1.23                         |          |
| 1215 |                         |            | 14.88     | 9.01            | 2.11                              | 0.50                          | -74           | 0.99                         |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

|                                    |            |                                                                                                                |                                     |                                                                                                                                                          |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Sample ID                          |            | Time Collected                                                                                                 |                                     | Well Inspection                                                                                                                                          |  |
| C024-P2M007                        |            | 1220                                                                                                           |                                     | 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                            |            | BTEX and naphthalene                                                                                           | <input checked="" type="checkbox"/> | Poor: heavily cracked                                                                                                                                    |  |
| TPH-DRO                            |            |                                                                                                                |                                     | Unsure: pad has been buried by site activities                                                                                                           |  |
| O&G                                |            |                                                                                                                |                                     | Bolts in place                                                                                                                                           |  |
| Total Cyanide                      |            | VOC,                                                                                                           |                                     | Bolts are missing                                                                                                                                        |  |
| TCL SVOCs                          |            | 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<br>_____ 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

JP

| Low Flow Sampling<br>Purge Log     |                         |                                                                                                                |            |                                                                                                                                                 |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                               |               |                              |          |
|------------------------------------|-------------------------|----------------------------------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|------------------------------|----------|
| Well Number: <u>C059-P2P002</u>    |                         |                                                                                                                |            |                                                                                                                                                 | Project Name: COA GW Q1 2024                                                                                                                        |                               |               |                              |          |
| Well Diameter (in):                |                         |                                                                                                                |            |                                                                                                                                                 | Project Number: 21010210                                                                                                                            |                               |               |                              |          |
| Depth to Product (ft):             |                         |                                                                                                                |            |                                                                                                                                                 | Date: <u>3/11/24</u>                                                                                                                                |                               |               |                              |          |
| Depth to Water (ft): <u>15.40</u>  |                         |                                                                                                                |            |                                                                                                                                                 | One Well Volume (gal):                                                                                                                              |                               |               |                              |          |
| Product Thickness (ft):            |                         |                                                                                                                |            |                                                                                                                                                 | Flow Rate (mL/min) <u>3.00</u>                                                                                                                      |                               |               |                              |          |
| Depth to Bottom (ft):              |                         |                                                                                                                |            |                                                                                                                                                 | 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 |
| 1230                               |                         |                                                                                                                | 13.55      | 8.05                                                                                                                                            | 1.96                                                                                                                                                | 6.33                          | 81            | 0.78                         |          |
| 1235                               |                         | 15.43                                                                                                          | 13.43      | 7.86                                                                                                                                            | 1.96                                                                                                                                                | 4.79                          | 103           | 0.88                         |          |
| 1240                               |                         |                                                                                                                | 13.35      | 7.81                                                                                                                                            | 1.98                                                                                                                                                | 4.60                          | 118           | 1.31                         |          |
| 1245                               |                         |                                                                                                                | 12.58      | 7.81                                                                                                                                            | 1.99                                                                                                                                                | 4.43                          | 120           | 1.20                         |          |
| 1250                               |                         |                                                                                                                | 12.64      | 7.79                                                                                                                                            | 1.98                                                                                                                                                | 4.20                          | 120           | 1.03                         |          |
| 1255                               |                         |                                                                                                                | 12.63      | 7.78                                                                                                                                            | 1.98                                                                                                                                                | 4.08                          | 122           | 2.09                         |          |
|                                    |                         |                                                                                                                |            |                                                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                                                                                                |            |                                                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                                                                                                |            |                                                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                                                                                                |            |                                                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                                                                                                |            |                                                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |
| SAMPLE RECORD AND WELL DETAILS     |                         |                                                                                                                |            |                                                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |
| Sample ID                          |                         | Time Collected                                                                                                 |            | Well Inspection                                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         | 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? | 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                                                                                                 |            | 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" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft<br>_____ 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:                                                                                                      |            |                                                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: C037 - P2M003

Project Name: COA GW Q1 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft): Time

Date: 5/12/24

Depth to Water (ft): 9.77

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) 300

Depth to Bottom (ft):

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 |
|------|-------------------------|------------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1255 |                         |                  | 18.85     | 11.84           | -7.37                             | 8.32                          | -74           | 2.1                          |          |
| 1300 | 1008                    | <del>10.98</del> | 18.34     | 11.85           | -7.81                             | 8.27                          | -78           | 2.99                         |          |
| 1305 |                         |                  | 17.56     | 11.91           | -9.82                             | 7.98                          | -75           | 3.51                         |          |
| 1310 |                         | 10.10            | 16.80     | 11.94           | 9.95                              | 8.16                          | -71           | 2.24                         |          |
| 1315 |                         |                  | 16.78     | 11.95           | 9.99                              | 8.01                          | -69           | 2.18                         |          |
|      |                         |                  |           |                 |                                   |                               |               |                              |          |
|      |                         |                  |           |                 |                                   |                               |               |                              |          |
|      |                         |                  |           |                 |                                   |                               |               |                              |          |
|      |                         |                  |           |                 |                                   |                               |               |                              |          |
|      |                         |                  |           |                 |                                   |                               |               |                              |          |
|      |                         |                  |           |                 |                                   |                               |               |                              |          |
|      |                         |                  |           |                 |                                   |                               |               |                              |          |
|      |                         |                  |           |                 |                                   |                               |               |                              |          |
|      |                         |                  |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                        |                                     | Well Inspection                                                                                                                    |  |
|------------------------------------|------------|---------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|--|
|                                    |            | 1320                                  |                                     | 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                  | <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                                                                     |  |
| 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 <input checked="" type="checkbox"/>                       |  |
| 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                                                                                         |  |
|                                    |            |                                       |                                     | Cap is present                                                                                                                     |  |
|                                    |            |                                       |                                     | Well permit is present                                                                                                             |  |
| Sampled By: <u>[Signature]</u>     |            | Comments:                             |                                     |                                                                                                                                    |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CO190-MWS

Project Name: COA GW Q1 2024

Well Diameter (in):

Project Number: 21010210

Depth to Product (ft): 13.65

Date: 5/12/24

Depth to Water (ft):

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) 500

Depth to Bottom (ft):

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1335 |                         |            | 20.01     | 7.72            | 3.18                              | 0.35                          | -362          | 31.6                         |          |
| 1340 |                         | 13.86      | 20.29     | 7.08            | 3.16                              | 0.24                          | -282          | 42.1                         |          |
| 1345 |                         |            | 20.15     | 6.81            | 3.18                              | 0.37                          | -199          | 39.7                         |          |
| 1350 |                         | 13.87      | 20.17     | 6.78            | 3.17                              | 0.23                          | -212          | 39.2                         |          |
| 1355 |                         |            | 19.90     | 6.78            | 3.16                              | 0.21                          | -216          | 39.8                         |          |
| 1400 |                         |            | 19.58     | 6.77            | 3.12                              | 0.28                          | -219          | 39.3                         |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                        |            | Well Inspection                                                                                                 |  |
|------------------------------------|------------|---------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------|--|
|                                    |            | 1405                                  |            | 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,                                  |            | 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                              |            | 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                                                                                                  |  |
|                                    |            |                                       |            | Well permit is present                                                                                          |  |
| Comments:                          |            |                                       |            |                                                                                                                 |  |
| Sampled By _____                   |            |                                       |            |                                                                                                                 |  |



Length of time Purged (min)

Sampled By

Comments:



| Low Flow Sampling<br>Purge Log     |                         |                                                                                                                                                         |            |                                                                                                |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                               |               |                              |          |
|------------------------------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|------------------------------|----------|
| Well Number: <u>C057-P2P002</u>    |                         |                                                                                                                                                         |            |                                                                                                | Project Name: COA GW Q1 2024                                                                                                                        |                               |               |                              |          |
| Well Diameter (in):                |                         |                                                                                                                                                         |            |                                                                                                | Project Number: 21010210                                                                                                                            |                               |               |                              |          |
| Depth to Product (ft):             |                         |                                                                                                                                                         |            |                                                                                                | Date: <u>5/8/24</u>                                                                                                                                 |                               |               |                              |          |
| Depth to Water (ft): <u>15.63</u>  |                         |                                                                                                                                                         |            |                                                                                                | One Well/Volume (gal):                                                                                                                              |                               |               |                              |          |
| Product Thickness (ft):            |                         |                                                                                                                                                         |            |                                                                                                | Flow Rate (mL/min) <u>240</u>                                                                                                                       |                               |               |                              |          |
| Depth to Bottom (ft):              |                         |                                                                                                                                                         |            |                                                                                                | 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 |
| 1140                               |                         |                                                                                                                                                         | 17.70      | 6.94                                                                                           | 1.07                                                                                                                                                | 3.95                          | 334           | 30.4                         |          |
| 1145                               |                         | 16.46                                                                                                                                                   | 17.57      | 6.60                                                                                           | 1.05                                                                                                                                                | 3.67                          | 208           | 7.29                         | V        |
| 1150                               |                         |                                                                                                                                                         | 17.06      | 8.30                                                                                           | 1.06                                                                                                                                                | 3.89                          | 135           | 2.51                         |          |
| 1155                               |                         | 16.91                                                                                                                                                   | 16.97      | 8.45                                                                                           | 1.06                                                                                                                                                | 3.88                          | 126           | 1.82                         |          |
| 1200                               |                         |                                                                                                                                                         | 16.78      | 8.99                                                                                           | 1.06                                                                                                                                                | 3.80                          | 80            | 1.88                         |          |
| 1205                               | DE 7                    |                                                                                                                                                         |            |                                                                                                |                                                                                                                                                     |                               |               |                              |          |
| SAMPLE RECORD AND WELL DETAILS     |                         |                                                                                                                                                         |            |                                                                                                |                                                                                                                                                     |                               |               |                              |          |
| Sample ID                          |                         | Time Collected                                                                                                                                          |            | Well Inspection                                                                                |                                                                                                                                                     |                               |               |                              |          |
| C057-P2P002                        |                         | 1220                                                                                                                                                    |            | 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                                                                                                                                    | 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<br>_____ 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                                                                                 |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                                                                                                                                         |            | Well permit is present                                                                         |                                                                                                                                                     |                               |               |                              |          |
| Sampled By                         |                         |                                                                                                                                                         |            |                                                                                                |                                                                                                                                                     |                               |               |                              |          |

| Low Flow Sampling<br>Purge Log     |                         |                                       |                                     |                                                                                                                                    |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                               |               |                              |          |
|------------------------------------|-------------------------|---------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|------------------------------|----------|
| Well Number: <u>C030-P2M015</u>    |                         |                                       |                                     |                                                                                                                                    | Project Name: COA GW Q1 2024                                                                                                                        |                               |               |                              |          |
| Well Diameter (in): <u>2</u>       |                         |                                       |                                     |                                                                                                                                    | Project Number: 21010210                                                                                                                            |                               |               |                              |          |
| Depth to Product (ft): <u>2</u>    |                         |                                       |                                     |                                                                                                                                    | Date: <u>3/8/24</u>                                                                                                                                 |                               |               |                              |          |
| Depth to Water (ft): <u>11.80</u>  |                         |                                       |                                     |                                                                                                                                    | One Well Volume (gal):                                                                                                                              |                               |               |                              |          |
| Product Thickness (ft): <u>—</u>   |                         |                                       |                                     |                                                                                                                                    | Flow Rate (mL/min) <u>300</u>                                                                                                                       |                               |               |                              |          |
| Depth to Bottom (ft):              |                         |                                       |                                     |                                                                                                                                    | 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 |
| 1250                               |                         |                                       | 17.47                               | 11.10                                                                                                                              | 2.81                                                                                                                                                | 0.59                          | -190          | 2.41                         |          |
| 1255                               |                         | 11.80                                 | 17.68                               | 11.13                                                                                                                              | 2.87                                                                                                                                                | 0.40                          | -163          | 1.38                         |          |
| 1300                               |                         | 11.80                                 | 17.83                               | 11.18                                                                                                                              | 2.90                                                                                                                                                | 0.35                          | -182          | 0.72                         | 7        |
| 1305                               |                         |                                       | 17.87                               | 11.22                                                                                                                              | 2.89                                                                                                                                                | 0.27                          | -191          | 1.10                         |          |
| 1310                               |                         |                                       | 17.91                               | 11.24                                                                                                                              | 2.89                                                                                                                                                | 0.25                          | -189          | 2.36                         |          |
| 1315                               |                         |                                       | 17.92                               | 11.25                                                                                                                              | 2.89                                                                                                                                                | 0.26                          | -190          | 1.18                         |          |
|                                    |                         |                                       |                                     |                                                                                                                                    |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                       |                                     |                                                                                                                                    |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                       |                                     |                                                                                                                                    |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                       |                                     |                                                                                                                                    |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                       |                                     |                                                                                                                                    |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                       |                                     |                                                                                                                                    |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                       |                                     |                                                                                                                                    |                                                                                                                                                     |                               |               |                              |          |
| SAMPLE RECORD AND WELL DETAILS     |                         |                                       |                                     |                                                                                                                                    |                                                                                                                                                     |                               |               |                              |          |
| Sample ID                          |                         | Time Collected                        |                                     | Well Inspection                                                                                                                    |                                                                                                                                                     |                               |               |                              |          |
| <u>C030P2M015</u>                  |                         | <u>1325</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                  | <input checked="" type="checkbox"/> | Unsure: pad has been buried by site activities                                                                                     |                                                                                                                                                     |                               |               |                              |          |
| TPH-DRO                            |                         |                                       |                                     | 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                              |                                     | 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                                                                                                                     |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                       |                                     | 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>CO195-MW5</u>     | Project Name: COA GW Q1 2024   |
| Well Diameter (in):               | Project Number: 21010210       |
| Depth to Product (ft):            | Date: <u>3/18/24</u>           |
| Depth to Water (ft): <u>13.85</u> | One Well Volume (gal):         |
| Product Thickness (ft):           | Flow Rate (mL/min) <u>4.05</u> |
| Depth to Bottom (ft):             | 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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1355 |                         |            | 17.64     | 9.30            | 0.413                             | 0.84                          | -46           | 4.17                         |          |
| 1400 |                         | 13.88      | 17.79     | 9.08            | 0.399                             | 0.48                          | -41           | 4.01                         |          |
| 1405 |                         |            | 17.76     | 9.10            | 0.407                             | 0.44                          | -43           | 3.36                         |          |
| 1410 |                         | 13.88      | 17.77     | 10.35           | 0.979                             | 0.41                          | -102          | 3.38                         |          |
| 1415 |                         |            | 17.73     | 10.60           | 1.20                              | 0.38                          | -116          | 4.88                         |          |
| 1420 |                         |            | 17.76     | 10.61           | 1.21                              | 0.40                          | -120          | 5.90                         |          |
| 1425 |                         |            | 17.75     | 10.66           | 1.24                              | 0.40                          | -129          | 5.86                         |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                        |            | Well Inspection                                                                                    |  |
|------------------------------------|------------|---------------------------------------|------------|----------------------------------------------------------------------------------------------------|--|
|                                    |            | 1425                                  |            | 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,                                  |            | 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,                  |            | ft x gal/ft (gal)                                                                                  |  |
| PCB                                |            | TDS,                                  |            | Well is structurally sound: not bent, broken, and no blockage identified                           |  |
| 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                                                                                     |  |
|                                    |            |                                       |            | Well permit is present                                                                             |  |
| Comments:                          |            |                                       |            |                                                                                                    |  |
| Sampled By: <u>[Signature]</u>     |            |                                       |            |                                                                                                    |  |



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                   |                                    |
|-----------------------------------|------------------------------------|
| Well Number: <u>CO 2062-MUS</u>   | Project Name: <u>B1400 COA 194</u> |
| Well Diameter (in): <u>2</u>      | Project Number: <u>21010214</u>    |
| Depth to Product (ft):            | Date: <u>2/15/24</u>               |
| Depth to Water (ft): <u>13.23</u> | One Well Volume (gal):             |
| Product Thickness (ft):           | Flow Rate (mL/min) <u>300</u>      |
| Depth to Bottom (ft):             | 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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1440 |                         |            | 11.54     | 10.82           | 2.83                              | 2.52                          | 181           | 8.57                         |          |
| 1445 |                         | 13.23      | 11.91     | 10.93           | 2.88                              | 1.36                          | -55           | 5.03                         |          |
| 1450 |                         | 13.23      | 11.94     | 10.94           | 2.89                              | 1.16                          | -70           | 4.40                         |          |
| 1455 |                         |            | 11.87     | 10.94           | 2.88                              | 1.07                          | -89           | 4.05                         |          |
| 1500 |                         |            | 11.98     | 10.95           | 2.89                              | 0.89                          | -95           | 3.94                         |          |
| 1505 |                         |            | 12.08     | 10.94           | 2.89                              | 0.87                          | -101          | 3.06                         |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

|                                    |            |                                                          |            |                                                                                                                                                          |  |  |  |
|------------------------------------|------------|----------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| Sample ID                          |            | Time Collected                                           |            | Well Inspection                                                                                                                                          |  |  |  |
| <u>CO2062-MUS</u>                  |            | <u>1510</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                           |            | VOCs 8260 and SVOCs 8270 SIM                             |            | Poor: heavily cracked                                                                                                                                    |  |  |  |
| TPH-GRO                            |            |                                                          |            | Unsure: pad has been buried by site activities                                                                                                           |  |  |  |
| TPH-DRO                            |            |                                                          |            | Bolts in place                                                                                                                                           |  |  |  |
| O&G                                |            |                                                          |            | Bolts are missing                                                                                                                                        |  |  |  |
| Total Cyanide                      |            | BTEX and naphthalene <input checked="" type="checkbox"/> |            | 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<br>_____ 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                                                                                                                                   |  |  |  |
| Sampled By <u>JP</u>               |            | Comments:                                                |            |                                                                                                                                                          |  |  |  |

| Low Flow Sampling<br>Purge Log     |                         |                                                                                                                |            |                                                                                                                                        |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                               |               |                              |          |
|------------------------------------|-------------------------|----------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|------------------------------|----------|
| Well Number: <u>CO 58- P2MOD 1</u> |                         |                                                                                                                |            |                                                                                                                                        | Project Name: <u>COA GW Q1 2024</u>                                                                                                                 |                               |               |                              |          |
| Well Diameter (in):                |                         |                                                                                                                |            |                                                                                                                                        | Project Number: <u>21010210</u>                                                                                                                     |                               |               |                              |          |
| Depth to Product (ft):             |                         |                                                                                                                |            |                                                                                                                                        | Date: <u>3/5/24</u>                                                                                                                                 |                               |               |                              |          |
| Depth to Water (ft): <u>14.10</u>  |                         |                                                                                                                |            |                                                                                                                                        | One Well Volume (gal):                                                                                                                              |                               |               |                              |          |
| Product Thickness (ft):            |                         |                                                                                                                |            |                                                                                                                                        | Flow Rate (mL/min) <u>200</u>                                                                                                                       |                               |               |                              |          |
| Depth to Bottom (ft):              |                         |                                                                                                                |            |                                                                                                                                        | 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 |
| 1520                               |                         |                                                                                                                | 14.53      | 10.97                                                                                                                                  | 1.64                                                                                                                                                | 9.23                          | -59           | 15.8                         | 300?     |
| 1525                               |                         | 14.15                                                                                                          | 14.97      | 10.92                                                                                                                                  | 1.64                                                                                                                                                | 9.67                          | -77           | 6.55                         | 300?     |
| 1530                               |                         |                                                                                                                | 14.96      | 10.90                                                                                                                                  | 1.61                                                                                                                                                | 9.47                          | -90           | 4.81                         |          |
| 1535                               |                         |                                                                                                                | 15.00      | 10.89                                                                                                                                  | 1.61                                                                                                                                                | 9.58                          | -97           | 4.22                         |          |
| 1540                               |                         |                                                                                                                | 15.06      | 10.89                                                                                                                                  | 1.61                                                                                                                                                | 9.55                          | -100          | 4.25                         |          |
| 1545                               |                         |                                                                                                                | 15.12      | 10.88                                                                                                                                  | 1.60                                                                                                                                                | 9.28                          | -103          | 4.01                         |          |
| SAMPLE RECORD AND WELL DETAILS     |                         |                                                                                                                |            |                                                                                                                                        |                                                                                                                                                     |                               |               |                              |          |
| Sample ID                          |                         | Time Collected                                                                                                 |            | Well Inspection                                                                                                                        |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         | 1550                                                                                                           |            | 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                                                                                                 |            | 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<br>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:                                                                                                      |            |                                                                                                                                        |                                                                                                                                                     |                               |               |                              |          |





Sampled By

Comments:

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CO 56 PZP 001

Project Name: COA GW Q1 2024

Well Diameter (in):

Project Number: 21010210

Depth to Product (ft):

Date: 3/5/24

Depth to Water (ft): 15.07

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) 240

Depth to Bottom (ft):

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1445 |                         |            | 13.98     | 10.93           | 2.71                              | 9.72                          | -66           | 5.40                         |          |
| 1450 |                         | 15.09      | 14.24     | 10.98           | 2.72                              | 8.90                          | -96           | 0.98                         |          |
| 1455 |                         |            | 14.55     | 11.01           | 2.69                              | 7.61                          | -112          | 1.34                         |          |
| 1500 |                         | 15.09      | 14.64     | 11.04           | 2.65                              | 6.08                          | -119          | 1.01                         | 7        |
| 1505 |                         |            | 14.63     | 11.05           | 2.64                              | 5.95                          | -121          | 1.80                         |          |
| 1510 |                         |            | 14.60     | 11.08           | 2.64                              | 5.69                          | -124          | 0.98                         | ✓        |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                                                                 |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                                    |            | 1510                                                                                                           |            | 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                                                                                                   |            | Poor: heavily cracked                                                                                                                           |  |
| TPH-GRO                            |            | and Cd                                                                                                         |            | Unsure: 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, 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<br>_____ 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:                                                                                                      |            |                                                                                                                                                 |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CO25-P2M008

Project Name: COA GW Q1 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft): -

Date: 3/5/24

Depth to Water (ft): 15.24

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) 300

Depth to Bottom (ft):

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 |
|-------------|-------------------------|--------------|--------------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| <u>1255</u> |                         |              | <u>15.24</u> | <u>9.98</u>     | <u>3.42</u>                       | <u>0.56</u>                   | <u>-206</u>   | <u>OK</u>                    |          |
| <u>1300</u> |                         | <u>15.24</u> | <u>15.64</u> | <u>0.38</u>     | <u>3.18</u>                       | <u>0.36</u>                   | <u>-233</u>   | <u>36.5</u>                  |          |
| <u>1305</u> |                         | <u>-</u>     | <u>15.75</u> | <u>10.44</u>    | <u>3.09</u>                       | <u>0.34</u>                   | <u>-242</u>   | <u>32.1</u>                  |          |
| <u>1310</u> |                         | <u>15.24</u> | <u>15.84</u> | <u>10.50</u>    | <u>3.03</u>                       | <u>0.33</u>                   | <u>-255</u>   | <u>3.67</u>                  | }        |
| <u>1315</u> |                         |              | <u>15.85</u> | <u>10.51</u>    | <u>3.02</u>                       | <u>0.33</u>                   | <u>-259</u>   | <u>3.30</u>                  |          |
| <u>1320</u> |                         |              | <u>15.79</u> | <u>10.52</u>    | <u>3.00</u>                       | <u>0.32</u>                   | <u>-264</u>   | <u>3.40</u>                  |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                        |                                     | Well Inspection                                                                                                                    |  |
|------------------------------------|------------|---------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|--|
|                                    |            | <u>1325</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                  | <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 <u>W00002</u>                                                       |  |
| 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,                  |                                     | 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"/>                                                                                 |  |
|                                    |            |                                       |                                     | Well permit is present                                                                                                             |  |
| Comments:                          |            |                                       |                                     |                                                                                                                                    |  |
| Sampled By <u>[Signature]</u>      |            |                                       |                                     |                                                                                                                                    |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: **2023-P21008**

Project Name: COA GW Q1 2024

Well Diameter (in):

Project Number: 21010210

Depth to Product (ft):

Date: **3/5/24**

Depth to Water (ft): **14.83**

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) **300**

Depth to Bottom (ft):

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1220 |                         |            | 17.76     | 10.25           | 1.84                              | 1.79                          | -109          | 3.13                         |          |
| 1225 |                         | 14.83      | 15.19     | 10.81           | 1.96                              | 0.53                          | -221          | 2.78                         | 7        |
| 1230 |                         | 14.83      | 15.03     | 10.78           | 1.97                              | 0.50                          | -220          | 0.92                         |          |
| 1235 |                         |            | 14.73     | 10.77           | 1.97                              | 0.47                          | -226          | 0.40                         |          |
| 1240 |                         | 14.83      | 14.65     | 0.76            | 1.97                              | 0.47                          | -228          | 0.38                         | ✓        |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                                                |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------|--|
| 2023-P21008                        |            | 1240                                                                                                           |            | 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                                                                                                 |            | 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" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft<br>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:

| Low Flow Sampling<br>Purge Log     |                         |                                       |            |                                                                                                                |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                               |               |                              |          |
|------------------------------------|-------------------------|---------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|------------------------------|----------|
| Well Number: <u>C042-12004</u>     |                         |                                       |            |                                                                                                                | Project Name: <u>COA GW Q1 2024</u>                                                                                                                 |                               |               |                              |          |
| Well Diameter (in):                |                         |                                       |            |                                                                                                                | Project Number: <u>21010210</u>                                                                                                                     |                               |               |                              |          |
| Depth to Product (ft): <u>-</u>    |                         |                                       |            |                                                                                                                | Date: <u>3/9/24</u>                                                                                                                                 |                               |               |                              |          |
| Depth to Water (ft): <u>6.17</u>   |                         |                                       |            |                                                                                                                | One Well Volume (gal):                                                                                                                              |                               |               |                              |          |
| Product Thickness (ft):            |                         |                                       |            |                                                                                                                | Flow Rate (mL/min) <u>320</u>                                                                                                                       |                               |               |                              |          |
| Depth to Bottom (ft):              |                         |                                       |            |                                                                                                                | 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 |
| 1445                               |                         |                                       | 16.12      | 8.15                                                                                                           | 0.633                                                                                                                                               | 2.38                          | -113          | 3.86                         |          |
| 1450                               |                         | 6.69                                  | 15.86      | 7.55                                                                                                           | 0.605                                                                                                                                               | 2.13                          | -99           | 2.55                         |          |
| 1455                               |                         |                                       | 16.27      | 7.39                                                                                                           | 0.590                                                                                                                                               | 2.51                          | -80           | 2.38                         |          |
| 1500                               |                         |                                       | 15.66      | 7.31                                                                                                           | 0.557                                                                                                                                               | 3.15                          | -62           | 2.26                         |          |
| 1505                               |                         |                                       | 15.57      | 7.54                                                                                                           | 0.555                                                                                                                                               | 3.24                          | -63           | 2.20                         |          |
| 1510                               |                         |                                       | 15.42      | 7.62                                                                                                           | 0.523                                                                                                                                               | 4.44                          | -40           | 2.28                         |          |
| 1515                               |                         |                                       | 15.24      | 7.71                                                                                                           | 0.518                                                                                                                                               | 4.49                          | -37           | 2.01                         |          |
| 1520                               |                         |                                       | 15.27      | 7.76                                                                                                           | 0.516                                                                                                                                               | 4.20                          | -29           | 1.87                         | ✓        |
|                                    |                         |                                       |            |                                                                                                                |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                       |            |                                                                                                                |                                                                                                                                                     |                               |               |                              |          |
| SAMPLE RECORD AND WELL DETAILS     |                         |                                       |            |                                                                                                                |                                                                                                                                                     |                               |               |                              |          |
| Sample ID                          |                         | Time Collected                        |            | Well Inspection                                                                                                |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         | 1525                                  |            | 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,                                  |            | 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                                                                      |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                       |            | Well is blocked and is not able to be used                                                                     |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                       |            | Cap is present                                                                                                 |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                       |            | Well permit is present                                                                                         |                                                                                                                                                     |                               |               |                              |          |
| Sampled By                         |                         | Comments:                             |            |                                                                                                                |                                                                                                                                                     |                               |               |                              |          |



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CO41-P2M001

Project Name: COA GW Q1 2024

Well Diameter (in): 7

Project Number: 21010210

Depth to Product (ft): 18.56

Date: 3/4/24

Depth to Water (ft): 18.56

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) 300

Depth to Bottom (ft): 16.06

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1220 |                         |            | 13.50     | 6.76            | 0.641                             | 1.74                          | 222           | 4.94                         |          |
| 1225 |                         |            | 12.26     | 6.67            | 0.628                             | 0.96                          | 57            | 3.84                         |          |
| 1230 |                         | 12.65      | 12.88     | 6.89            | 0.625                             | 0.79                          | -56           | 3.48                         |          |
| 1235 |                         | 12.65      | 11.73     | 7.00            | 0.625                             | 0.86                          | -73           | 2.40                         |          |
| 1240 |                         |            | 11.57     | 7.15            | 0.626                             | 0.81                          | -97           | 1.97                         |          |
| 1245 |                         |            | 11.39     | 7.24            | 0.625                             | 0.89                          | -99           | 1.35                         |          |
| 1250 |                         |            | 11.39     | 7.28            | 0.624                             | 0.99                          | -101          | 1.90                         |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

|                                    |            |                                                                                                                               |                                     |                                                                                                                                                          |  |
|------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Sample ID<br><u>CO41-P2M001</u>    |            | Time Collected<br><u>1250</u>                                                                                                 |                                     | Well Inspection<br>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"/> | 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 <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<br>_____ 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]



Length of time Purged (min)

[illegible]

|                                    |            |                                                                                                                |            |                                                                                                                                                        |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                                                                        |  |
| C041-P2A03G                        |            | 1320                                                                                                           |            | 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                                                                                                   |            | Fair: some visible cracks and/or not sloping                                                                                                           |  |
| TPH-GRO                            |            | and Cd                                                                                                         |            | Poor: heavily cracked                                                                                                                                  |  |
| TPH-DRO                            |            | BTEX and                                                                                                       | X          | Unsure: pad has been buried by site activities                                                                                                         |  |
| O&G                                |            | naphthalene                                                                                                    |            | Bolts in place                                                                                                                                         |  |
| Total Cyanide                      |            | VOC,                                                                                                           |            | Bolts are missing                                                                                                                                      |  |
| TCL SVOCs                          |            | 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. = 1.4 gal/ft<br>_____ 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:

~~2~~ pH > 10





# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: C026-P2M ΦΦ7

Project Name: COA GW Q1 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft): -

Date: 3/5/24

Depth to Water (ft): 15.20

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) 300 → 100

Depth to Bottom (ft):

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        |
|-------------|-------------------------|--------------|--------------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|-----------------|
| <u>1535</u> |                         |              | <u>15.40</u> | <u>11.11</u>    | <u>2.47</u>                       | <u>0.90</u>                   | <u>-129</u>   | <u>25.4</u>                  |                 |
| <u>1340</u> |                         | <u>18.33</u> | <u>15.33</u> | <u>11.06</u>    | <u>2.50</u>                       | <u>0.56</u>                   | <u>-136</u>   | <u>7.03</u>                  | <u>↓</u>        |
| <u>1345</u> |                         |              | <u>14.60</u> | <u>11.08</u>    | <u>2.51</u>                       | <u>0.55</u>                   | <u>-138</u>   | <u>4.34</u>                  | <u>&gt; 100</u> |
| <u>1350</u> |                         | <u>19.69</u> | <u>14.49</u> | <u>11.09</u>    | <u>2.55</u>                       | <u>0.51</u>                   | <u>-135</u>   | <u>4.89</u>                  |                 |
| <u>1755</u> |                         |              | <u>14.55</u> | <u>11.10</u>    | <u>2.56</u>                       | <u>0.52</u>                   | <u>-137</u>   | <u>4.19</u>                  | <u>✓</u>        |
|             |                         |              |              |                 |                                   |                               |               |                              |                 |
|             |                         |              |              |                 |                                   |                               |               |                              |                 |
|             |                         |              |              |                 |                                   |                               |               |                              |                 |
|             |                         |              |              |                 |                                   |                               |               |                              |                 |
|             |                         |              |              |                 |                                   |                               |               |                              |                 |
|             |                         |              |              |                 |                                   |                               |               |                              |                 |
|             |                         |              |              |                 |                                   |                               |               |                              |                 |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                        |            | Well Inspection                                                                                                 |  |
|------------------------------------|------------|---------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------|--|
|                                    |            | <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? | Fair: some visible cracks and/or not sloping                                                                    |  |
| TCL-VOCs                           |            | Dissolved Zn                          |            | Poor: heavily cracked                                                                                           |  |
| TPH-GRO                            |            | and Cd                                |            | Unsure: pad has been buried by site activities                                                                  |  |
| TPH-DRO                            |            | BTEX and                              |            | Bolts in place                                                                                                  |  |
| O&G                                |            | naphthalene                           |            | 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                              |            | 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                                                                                                  |  |
|                                    |            |                                       |            | Well permit is present                                                                                          |  |
| Sampled By                         |            | Comments: <u>pH 7 10</u>              |            |                                                                                                                 |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                       |                                           |
|---------------------------------------|-------------------------------------------|
| Well Number: <u>CO 190-MWS</u>        | Project Name: <u>COA GW Q2 2024</u>       |
| Well Diameter (in): <u>2</u>          | Project Number: <u>21010210</u>           |
| Depth to Product (ft): <u>      </u>  | Date: <u>6/20/24</u>                      |
| Depth to Water (ft): <u>19.36</u>     | One Well Volume (gal): <u>      </u>      |
| Product Thickness (ft): <u>      </u> | Flow Rate (mL/min) <u>300</u>             |
| Depth to Bottom (ft): <u>      </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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1150 |                         |            | 24.07     | 6.65            | 3.56                              | 4.20                          | -147          | 4.79                         |          |
| 1155 |                         | 19.97      | 24.94     | 6.67            | 3.99                              | 2.71                          | -148          | 2.01                         |          |
| 1200 |                         | 19.78      | 25.36     | 6.61            | 3.45                              | 1.56                          | -157          | 3.18                         |          |
| 1205 |                         |            | 25.29     | 6.60            | 3.04                              | 1.11                          | -162          | 2.84                         |          |
| 1210 |                         |            | 25.46     | 6.67            | 2.82                              | 1.01                          | -170          | 2.81                         |          |
| 1215 |                         |            | 25.32     | 6.68            | 2.80                              | 0.99                          | -171          | 1.75                         |          |
| 1220 |                         |            | 25.21     | 6.70            | 2.80                              | 0.91                          | -172          | 1.60                         |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## 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                                                                                             |  |
|            |  |                |  | 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 |  | Comments:      |  |                                                                                                                |  |
|            |  |                |  |                                                                                                                |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                   |                                     |
|-----------------------------------|-------------------------------------|
| Well Number: <u>C093-P2M</u>      | Project Name: <u>COA GW Q2 2024</u> |
| Well Diameter (in):               | Project Number: <u>21010210</u>     |
| Depth to Product (ft):            | Date: <u>12/17/24</u>               |
| Depth to Water (ft): <u>10.81</u> | One Well Volume (gal):              |
| Product Thickness (ft):           | Flow Rate (mL/min) <u>300</u>       |
| Depth to Bottom (ft):             | 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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1320 |                         |            | 28.14     | 6.99            | 6186                              | 2.62                          | -257          | 3.08                         |          |
| 1325 |                         | 11.85      | 28.67     | 7.05            | 0.891                             | 1.35                          | -286          | 2.11                         |          |
| 1330 |                         |            | 23.03     | 7.11            | 0.905                             | 1.25                          | -296          | 1.84                         |          |
| 1335 |                         | 11.85      | 23.56     | 7.56            | 0.920                             | 0.90                          | -330          | 1.31                         |          |
| 1340 |                         |            | 23.73     | 8.07            | 0.937                             | 0.79                          | -363          | 1.02                         |          |
| 1345 |                         |            | 23.74     | 8.95            | 1.10                              | 0.76                          | -371          | 1.25                         |          |
| 1350 |                         |            | 23.17     | 10.39           | 1.27                              | 0.68                          | -390          | 0.89                         |          |
| 1355 |                         |            | 23.18     | 10.45           | 1.31                              | 0.62                          | -382          | 0.76                         |          |
| 1400 |                         |            | 23.14     | 10.52           | 1.34                              | 0.69                          | -390          | 1.84                         |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          | Time Collected | Well Inspection                                                                                                 |
|------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------|
| <u>C093-P2M</u>                    | <u>1405</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                         |                |                                                                                                                 |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: **C057-P21002**

Project Name: COA GW Q3 2024

Well Diameter (in): **2**

Project Number: 21010210

Depth to Product (ft): **-**

Date: **6/7/24**

Depth to Water (ft): **15.77**

One Well Volume (gal):

Product Thickness (ft): **-**

Flow Rate (mL/min) **200**

Depth to Bottom (ft): **18.10**

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1400 |                         | 15.77      | 28.40     | 13.08           | 22.7                              | 7.06                          | -71           | 21.5                         |          |
| 1405 |                         | 15.74      | 27.75     | 13.29           | 1.40                              | 1.84                          | -84           | 12.2                         |          |
| 1410 |                         | 15.77      | 27.66     | 13.34           | 1.41                              | 1.46                          | -89           | 11.0                         |          |
| 1415 |                         | 15.77      | 27.58     | 13.37           | 1.42                              | 1.01                          | -94           | 11.7                         |          |
| 1420 |                         | 15.77      | 27.71     | 13.39           | 1.42                              | 0.91                          | -95           | 10.2                         |          |
| 1425 |                         | 15.77      | 27.80     | 13.40           | 1.42                              | 0.88                          | -96           | 9.8                          |          |
| 1430 |                         | 15.77      | 27.85     | 13.40           | 1.42                              | 0.87                          | -96           | 8.9                          |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          | Time Collected | Well Inspection                                                                                                                                  |
|------------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| C057-P21002                        | 1440           | 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?     | Fair: some visible cracks and/or not sloping                                                                                                     |
| TCL-VOCs                           |                | Poor: heavily cracked                                                                                                                            |
| TPH-GRO                            |                | 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 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<br>_____ 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                                                                                                                                   |
|                                    |                | Well permit is present                                                                                                                           |
| Comments:                          |                |                                                                                                                                                  |
| Sampled By                         | DPK            |                                                                                                                                                  |



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                   |                                        |
|-----------------------------------|----------------------------------------|
| Well Number: <u>056-P2P001</u>    | Project Name: <u>COA GW Q3 2024</u>    |
| Well Diameter (in): <u>2</u>      | Project Number: <u>21010210</u>        |
| Depth to Product (ft):            | Date: <u>6/7/24</u>                    |
| Depth to Water (ft): <u>15.16</u> | One Well Volume (gal):                 |
| Product Thickness (ft): <u>-</u>  | Flow Rate (mL/min) <u>22.50 mL/min</u> |
| Depth to Bottom (ft): <u>19.1</u> | 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 |
|-------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 9:39  |                         | 15.90      | 22.93     | 11.96           | 2.46                              | 1.09                          | -2            | 6.70                         |          |
| 9:44  |                         | 15.82      | 20.90     | 12.22           | 2.48                              | 0.20                          | -20           | 8.62                         |          |
| 9:49  |                         | 15.46      | 20.96     | 12.30           | 2.44                              | 0.22                          | -22           | 9.04                         |          |
| 9:54  |                         | 14.98      | 20.24     | 12.31           | 2.42                              | 0.14                          | -39           | 7.14                         |          |
| 9:59  |                         | 14.48      | 20.88     | 12.33           | 2.42                              | 0.20                          | -47           | 6.55                         |          |
| 10:04 |                         | 14.98      | 21.06     | 12.33           | 2.41                              | 0.21                          | -54           | 6.85                         |          |
| 10:09 |                         | 14.98      | 20.95     | 12.33           | 2.42                              | 0.26                          | -61           | 6.93                         |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                                                |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------|--|
| 056-P2P001                         |            | 10:15                                                                                                          |            | 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                                                                                                   |            | Poor: heavily cracked                                                                                                          |  |
| TPH-GRO                            |            | and Cd                                                                                                         |            | Unsure: pad has been buried by site activities                                                                                 |  |
| TPH-DRO                            |            | BTEX and                                                                                                       | X          | Bolts in place                                                                                                                 |  |
| O&G                                |            | naphthalene                                                                                                    |            | 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, 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<br>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 <u>WLP</u>              |            | Comments: <u>Water dark and turbid first 30 seconds of purge run clear slight petro odor</u>                   |            |                                                                                                                                |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                   |                                       |
|-----------------------------------|---------------------------------------|
| Well Number: <u>CO58-P2M001</u>   | Project Name: <u>COA GW Q3 2024</u>   |
| Well Diameter (in): <u>2</u>      | Project Number: <u>21010210</u>       |
| Depth to Product (ft):            | Date: <u>6/7/24</u>                   |
| Depth to Water (ft): <u>13.36</u> | One Well Volume (gal):                |
| Product Thickness (ft):           | Flow Rate (mL/min) <u>2.15 mL/min</u> |
| Depth to Bottom (ft): <u>19.4</u> | 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 |
|--------------|-------------------------|--------------|--------------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| <u>11:16</u> |                         | <u>13.45</u> | <u>23.74</u> | <u>12.35</u>    | <u>1.00</u>                       | <u>1.16</u>                   | <u>-51</u>    | <u>16.6</u>                  |          |
| <u>11:21</u> |                         | <u>13.85</u> | <u>24.16</u> | <u>12.32</u>    | <u>1.78</u>                       | <u>0.00</u>                   | <u>-66</u>    | <u>7.99</u>                  |          |
| <u>11:26</u> |                         | <u>14.07</u> | <u>24.65</u> | <u>12.26</u>    | <u>1.75</u>                       | <u>0.00</u>                   | <u>-73</u>    | <u>9.36</u>                  |          |
| <u>11:31</u> |                         | <u>14.25</u> | <u>24.97</u> | <u>12.05</u>    | <u>1.47</u>                       | <u>0.00</u>                   | <u>-73</u>    | <u>9.54</u>                  |          |
| <u>11:36</u> |                         | <u>14.43</u> | <u>24.98</u> | <u>11.96</u>    | <u>1.37</u>                       | <u>0.00</u>                   | <u>-73</u>    | <u>6.69</u>                  |          |
| <u>11:41</u> |                         | <u>14.60</u> | <u>24.83</u> | <u>11.93</u>    | <u>1.33</u>                       | <u>0.00</u>                   | <u>-73</u>    | <u>8.12</u>                  |          |
| <u>11:46</u> |                         | <u>14.97</u> | <u>24.94</u> | <u>11.93</u>    | <u>1.33</u>                       | <u>0.00</u>                   | <u>-72</u>    | <u>8.47</u>                  |          |
| <u>11:51</u> |                         |              |              |                 |                                   |                               |               |                              |          |
|              |                         |              |              |                 |                                   |                               |               |                              |          |
|              |                         |              |              |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                                 | Time Collected | Well Inspection                                                                                                 |
|-------------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------|
| <u>CO58-P2M001</u>                        | <u>11:52</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 |
| 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: <u>Slight Petro odor, clear</u> |                |                                                                                                                 |
| Sampled By: <u>WLP</u>                    |                |                                                                                                                 |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                   |                                          |
|-----------------------------------|------------------------------------------|
| Well Number: <u>CO206R-mws</u>    | Project Name: <u>COA GW Q3 2024</u>      |
| Well Diameter (in): <u>2</u>      | Project Number: <u>21010210</u>          |
| Depth to Product (ft): <u>—</u>   | Date: <u>6/7/24</u>                      |
| Depth to Water (ft): <u>13.71</u> | One Well Volume (gal):                   |
| Product Thickness (ft): <u>—</u>  | Flow Rate (mL/min) <u>200-250 mL/min</u> |
| Depth to Bottom (ft): <u>22.5</u> | 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 |
|-------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 12:26 |                         | 13.74      | 24.01     | 11.32           | 2.59                              | 2.98                          | 6             | 9.89                         |          |
| 12:31 |                         | 13.78      | 23.89     | 11.57           | 2.62                              | 0.09                          | -69           | 9.27                         |          |
| 12:36 |                         | 13.70      | 23.75     | 11.60           | 2.64                              | 0.00                          | -43           | 8.23                         |          |
| 12:41 |                         | 13.75      | 23.56     | 11.62           | 2.65                              | 0.00                          | -130          | 8.75                         |          |
| 12:46 |                         | 13.75      | 23.65     | 11.62           | 2.66                              | 0.00                          | -148          | 8.30                         |          |
| 12:51 |                         | 13.77      | 23.59     | 11.63           | 2.66                              | 0.00                          | -160          | 8.78                         |          |
| 12:56 |                         | 13.71      | 23.62     | 11.64           | 2.67                              | 0.00                          | -171          | 8.51                         |          |
| 13:01 |                         | 13.72      | 23.60     | 11.65           | 2.67                              | 0.00                          | -179          | 8.47                         |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          | Time Collected                            | Well Inspection                                                                                                 |
|------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| CO206R-mws                         | 13:10                                     | 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                            |                                           | 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 |
| 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<br><u>WAF</u>           | Comments: <u>slight petio odor, clear</u> |                                                                                                                 |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CO55 - P2M 000

Project Name: COA GW Q3 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft):

Date: 6/7/24

Depth to Water (ft): 14.18

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) 100 mL/min

Depth to Bottom (ft): 17.3

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 9:20 |                         | 16.00      | 22.33     | 12.37           | 1.84                              | 8.23                          | 17            | 58.1                         |          |
| 9:25 |                         | 16.55      | 21.40     | 12.68           | 1.86                              | 3.70                          | -13           | 44.5                         |          |
| 9:30 |                         |            |           |                 |                                   |                               |               |                              | Dry      |
| 9:35 |                         |            |           |                 |                                   |                               |               |                              |          |
| 9:40 |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                                                |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------|--|
| <u>CO55 - P2M 000</u>              |            | <u>13.15</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                            |            |                                                                                                                |            | Unsure: pad has been buried by site activities                                                                                 |  |
| TPH-DRO                            |            | BTEX and naphthalene                                                                                           | <u>X</u>   | 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, 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<br>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 WCP Comments: Replaced tubing, Dry at 9:30



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                   |                                     |
|-----------------------------------|-------------------------------------|
| Well Number: <u>C026-P2M007</u>   | Project Name: <u>COA GW Q3 2024</u> |
| Well Diameter (in): <u>2</u>      | Project Number: <u>21010210</u>     |
| Depth to Product (ft):            | Date: <u>6/7/24</u>                 |
| Depth to Water (ft): <u>19.15</u> | One Well Volume (gal):              |
| Product Thickness (ft): <u>-</u>  | Flow Rate (mL/min)                  |
| Depth to Bottom (ft): <u>22.8</u> | 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 |
|-------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 10:28 |                         | 16.58      | 25.98     | 12.07           | 2.39                              | 4.60                          | -16           | 82.4                         |          |
| 10:33 |                         | 17.48      | 25.62     | 12.26           | 2.41                              | 3.23                          | -23           | 43.9                         |          |
| 10:38 |                         | 18.65      | 25.64     | 12.30           | 2.41                              | 2.83                          | -32           | 31.1                         |          |
| 10:43 |                         | 19.40      | 25.87     | 12.71           | 2.42                              | 2.70                          | -46           | 26.5                         |          |
| 10:49 |                         | 20.27      | 26.16     | 12.32           | 2.40                              | 2.75                          | -57           | 4.30                         |          |
| 10:53 |                         | 21.35      | 26.35     | 12.37           | 2.47                              | 2.49                          | -65           | 7.80                         |          |
| 10:58 |                         | 21.96      | 26.43     | 12.33           | 2.50                              | 2.66                          | -68           | 9.90                         |          |
| 11:03 |                         | 22.82      | 26.63     | 12.38           | 2.59                              | 2.50                          | -86           | 10.00                        |          |
| 11:08 |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                                |            | Well Inspection                                                                                                               |  |
|------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------|--|
| C026-P2M007                        |            | 13:25                                                                                                                         |            | 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<br>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 <u>WLF</u>              |            | Comments: <u>Dry at 11:05</u>                                                                                                 |            |                                                                                                                               |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                   |                                        |
|-----------------------------------|----------------------------------------|
| Well Number: <u>C025-P2M008</u>   | Project Name: <u>COA GW Q3 2024</u>    |
| Well Diameter (in): <u>2</u>      | Project Number: <u>21010210</u>        |
| Depth to Product (ft): <u>—</u>   | Date: <u>6/7/24</u>                    |
| Depth to Water (ft): <u>15.94</u> | One Well Volume (gal):                 |
| Product Thickness (ft): <u>—</u>  | Flow Rate (mL/min) <u>≈ 150 mL/min</u> |
| Depth to Bottom (ft): <u>22.4</u> | 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 |
|-------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 13:48 |                         | 15.94      | 27.75     | 11.05           | 2.87                              | 2.31                          | -1            | 10.35                        |          |
| 13:53 |                         | 15.94      | 25.62     | 11.33           | 2.83                              | 0.86                          | -132          | 10.41                        |          |
| 13:56 |                         | 15.94      | 26.07     | 11.36           | 2.77                              | 0.31                          | -152          | 9.22                         |          |
| 14:03 |                         | 15.94      | 25.68     | 11.33           | 2.76                              | 0.29                          | -164          | 9.26                         |          |
| 14:08 |                         | 15.94      | 25.04     | 11.40           | 2.78                              | 0.09                          | -165          | 8.76                         |          |
| 14:13 |                         | 15.94      | 25.09     | 11.41           | 2.77                              | 0.07                          | -162          | 8.72                         |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                               |            | Well Inspection                                                                                                                                          |  |
|------------------------------------|------------|------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| C025-P2M008                        |            | 14:20                                                                                                                        |            | 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                                                                                                                 |            | Poor: heavily cracked                                                                                                                                    |  |
| TPH-GRO                            |            | and Cd                                                                                                                       |            | Unsure: pad has been buried by site activities                                                                                                           |  |
| TPH-DRO                            |            | BTEX and                                                                                                                     | X          | Bolts in place                                                                                                                                           |  |
| O&G                                |            | naphthalene                                                                                                                  |            | 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, 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<br>_____ 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: <u>Done turbid, green in water, strong petro odor, no measurable product</u><br><u>Clear + No Shien after 2min</u> |            |                                                                                                                                                          |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CO41-P2M001

Project Name: COA GW Q3 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft): -

Date: 6/7/24

Depth to Water (ft): 12.69

One Well Volume (gal):

Product Thickness (ft): -

Flow Rate (mL/min) 260

Depth to Bottom (ft): 16.60

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 0950 |                         | 12.69      | 25.74     | 11.21           | 0.734                             | 1.34                          | -47           | 7.0                          |          |
| 0955 |                         | 12.66      | 25.07     | 9.96            | 0.747                             | 0.16                          | -94           | 7.8                          |          |
| 1000 |                         | 12.65      | 25.87     | 9.19            | 0.705                             | 0.16                          | -139          | 7.1                          |          |
| 1005 |                         | 12.68      | 26.41     | 8.94            | 0.698                             | 0.00                          | -147          | 7.5                          |          |
| 1010 |                         | 12.64      | 26.95     | 8.77            | 0.695                             | 0.00                          | -158          | 7.5                          |          |
| 1015 |                         | 12.64      | 27.51     | 8.73            | 0.696                             | 0.00                          | -162          | 5.5                          |          |
| 1020 |                         | 12.69      | 27.72     | 8.72            | 0.696                             | 0.00                          | -164          | 5.8                          |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                                                                          |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| CO41-P2M001                        |            | 1025                                                                                                           |            | 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                                                                                                   |            | Poor: heavily cracked                                                                                                                                    |  |
| TPH-GRO                            |            | and Cd                                                                                                         |            | Unsure: pad has been buried by site activities                                                                                                           |  |
| TPH-DRO                            |            | BTEX and                                                                                                       |            | Bolts in place                                                                                                                                           |  |
| O&G                                |            | naphthalene                                                                                                    |            | 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, 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<br>_____ 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:<br>Sampled By <u>DK</u>  |            |                                                                                                                |            |                                                                                                                                                          |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: **C041-P2M036**

Project Name: COA GW Q3 2024

Well Diameter (in): **2**

Project Number: 21010210

Depth to Product (ft):

Date: **6/7/24**

Depth to Water (ft): **13.16**

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) **200**

Depth to Bottom (ft): **50.0**

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1025 |                         | 13.16      | 27.70     | 9.38            | 0.920                             | 0.37                          | -199          | 4.4                          |          |
| 1030 |                         | 13.13      | 26.18     | 12.10           | 1.05                              | 0.00                          | -298          | 9.6                          |          |
| 1035 |                         | 13.14      | 26.26     | 12.46           | 1.18                              | 0.04                          | -298          | 13.9                         |          |
| 1040 |                         | 13.15      | 27.01     | 12.59           | 1.19                              | 0.04                          | -309          | 9.9                          |          |
| 1045 |                         | 13.15      | 27.23     | 12.60           | 1.20                              | 0.04                          | -305          | 60.1                         |          |
| 1050 |                         | 13.15      | 27.53     | 12.62           | 1.20                              | 0.03                          | -307          | 9.6                          |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                                |            | Well Inspection                                                                                                                                  |  |  |
|------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| C041-P2M036                        |            | 1100                                                                                                                          |            | 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<br>_____ 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:                                                                                                                     |            |                                                                                                                                                  |  |  |
| DE                                 |            | Clear Petro odor                                                                                                              |            |                                                                                                                                                  |  |  |



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                   |                               |
|-----------------------------------|-------------------------------|
| Well Number: <b>C059-P2P002</b>   | Project Name: COA GW Q3 2024  |
| Well Diameter (in): <b>-</b>      | Project Number: 21010210      |
| Depth to Product (ft): <b>-</b>   | Date: <b>6/7/24</b>           |
| Depth to Water (ft): <b>15.74</b> | One Well Volume (gal):        |
| Product Thickness (ft): <b>-</b>  | Flow Rate (mL/min) <b>200</b> |
| Depth to Bottom (ft): <b>19.0</b> | 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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1315 |                         | 15.74      | 27.93     | 12.76           | 1.99                              | 4.43                          | -89           | 12.4                         |          |
| 1320 |                         | 15.71      | 27.65     | 12.94           | 2.13                              | 0.47                          | -103          | 9.0                          |          |
| 1325 |                         | 15.72      | 27.72     | 12.95           | 2.14                              | 0.21                          | -106          | 7.2                          |          |
| 1330 |                         | 15.74      | 28.00     | 12.96           | 2.15                              | 0.24                          | -114          | 6.5                          |          |
| 1335 |                         | 15.74      | 28.12     | 12.93           | 2.15                              | 0.21                          | -113          | 6.0                          |          |
| 1340 |                         | 15.74      | 28.05     | 12.92           | 2.15                              | 0.19                          | -117          | 5.7                          |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                                |            | Well Inspection                                                                                                                                          |  |  |
|------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| C059-P2P002                        |            |                                                                                                                               |            | 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                            |            |                                                                                                                               |            | 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" 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<br>_____ 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:                                                                                                                     |            |                                                                                                                                                          |  |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                             |                              |
|-----------------------------|------------------------------|
| Well Number:                | Project Name: COA GW Q3 2024 |
| Well Diameter (in): 2       | Project Number: 21010210     |
| Depth to Product (ft): -    | Date:                        |
| Depth to Water (ft): 14.75  | One Well Volume (gal):       |
| Product Thickness (ft): -   | Flow Rate (mL/min)           |
| Depth to Bottom (ft): 22.30 | 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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1230 |                         |            | 29.24     | 12.12           | 5.65                              | 0.53                          | -104          | 9.3                          | Clear    |
| 1235 |                         |            | 27.41     | 12.52           | 4.50                              | 0.14                          | -170          | 16.8                         |          |
| 1240 |                         |            | 28.00     | 12.60           | 3.97                              | 0.00                          | -180          | 8.4                          |          |
| 1245 |                         |            | 27.87     | 12.69           | 2.96                              | 0.00                          | -191          | 7.9                          |          |
| 1250 |                         |            | 27.40     | 12.73           | 2.78                              | 0.00                          | -192          | 8.2                          |          |
| 1255 |                         |            | 27.65     | 12.74           | 2.73                              | 0.00                          | -192          | 9.6                          |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                                                                          |                                     |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| C023-PZ M008                       |            | 1300                                                                                                           |            | 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                                                                                           |            | 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, 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<br>_____ 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                                                                                                                                           |                                     |
|                                    |            |                                                                                                                |            | Well permit is present                                                                                                                                   |                                     |
| Sampled By: <u>DL</u>              |            | Comments:                                                                                                      |            |                                                                                                                                                          |                                     |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                    |                                     |
|------------------------------------|-------------------------------------|
| Well Number: <b>CO191-MWS</b>      | Project Name: <b>COA GW Q3 2024</b> |
| Well Diameter (in): <b>2</b>       | Project Number: <b>21010210</b>     |
| Depth to Product (ft): <b>-</b>    | Date: <b>6/7/24</b>                 |
| Depth to Water (ft): <b>12.41</b>  | One Well Volume (gal):              |
| Product Thickness (ft): <b>-</b>   | Flow Rate (mL/min) <b>200</b>       |
| Depth to Bottom (ft): <b>22.60</b> | 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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 9:10 |                         | 12.41      | 23.98     | 10.60           | 0.993                             | 2.72                          | -59           | 7.0                          | clear    |
| 9:15 |                         | 12.41      | 24.11     | 11.70           | 0.979                             | 1.03                          | -105          | 6.5                          |          |
| 9:20 |                         | 12.41      | 24.19     | 12.23           | 0.960                             | 0.55                          | -138          | 4.1                          |          |
| 9:25 |                         | 12.41      | 24.47     | 12.37           | 0.952                             | 0.37                          | -152          | 3.5                          |          |
| 9:30 |                         | 12.41      | 24.68     | 12.40           | 0.949                             | 0.27                          | -158          | 4.2                          |          |
| 9:36 |                         | 12.41      |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                        |                        | Well Inspection                                                                                                 |                                     |
|------------------------------------|------------|---------------------------------------|------------------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------|
| CO191-MWS                          |            | 0940                                  |                        | 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                          |                        | Poor: heavily cracked                                                                                           |                                     |
| TPH-GRO                            |            | and Cd                                |                        | Unsure: pad has been buried by site activities                                                                  |                                     |
| TPH-DRO                            |            | BTEX and                              |                        | Bolts in place                                                                                                  |                                     |
| O&G                                |            | naphthalene                           |                        | 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                              |                        | 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                                                                                                  |                                     |
|                                    |            |                                       | Well permit is present |                                                                                                                 |                                     |

|                         |           |
|-------------------------|-----------|
| Sampled By<br><b>DF</b> | Comments: |
|-------------------------|-----------|

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: **6024-P2M007**

Project Name: COA GW Q3 2024

Well Diameter (in): **2**

Project Number: 21010210

Depth to Product (ft): **-**

Date: **6/7/24**

Depth to Water (ft): **14.68**

One Well Volume (gal):

Product Thickness (ft): **-**

Flow Rate (mL/min) **200**

Depth to Bottom (ft): **22.20**

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 |
|-------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 11:25 |                         | 14.68      | 31.61     | 11.42           | 1.10                              | 0.57                          | -120          | 17.2                         |          |
| 11:30 |                         | 14.65      | 28.10     | 11.65           | 1.20                              | 0.12                          | -115          | 13.6                         |          |
| 11:35 |                         | 14.68      | 27.98     | 11.11           | 1.32                              | 0.01                          | -115          | 14.8                         |          |
| 11:40 |                         | 14.68      | 27.77     | 11.08           | 1.43                              | 0.00                          | -115          | 10.1                         |          |
| 11:45 |                         | 14.68      | 27.79     | 11.05           | 1.45                              | 0.00                          | -115          | 9.8                          |          |
| 11:50 |                         | 14.68      | 27.88     | 11.04           | 1.47                              | 0.00                          | -115          | 9.7                          |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                                                                          |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>6024-P2M007</b>                 |            | <b>1200</b>                                                                                                    |            | 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                                                                                                   |            | Poor: heavily cracked                                                                                                                                    |  |
| TPH-GRO                            |            | and Cd                                                                                                         |            | Unsure: pad has been buried by site activities                                                                                                           |  |
| TPH-DRO                            |            | BTEX and                                                                                                       |            | Bolts in place                                                                                                                                           |  |
| O&G                                |            | naphthalene                                                                                                    |            | 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, 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<br>_____ 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:                                                                                                      |            |                                                                                                                                                          |  |



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                   |                                     |
|-----------------------------------|-------------------------------------|
| Well Number: <b>COA-MWI-004</b>   | Project Name: <b>COA GW Q3 2024</b> |
| Well Diameter (in): <b>2</b>      | Project Number: <b>21010210</b>     |
| Depth to Product (ft):            | Date: <b>6/8/24</b>                 |
| Depth to Water (ft): <b>15.72</b> | One Well Volume (gal):              |
| Product Thickness (ft):           | Flow Rate (mL/min) <b>800</b>       |
| Depth to Bottom (ft):             | 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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1050 |                         |            | 22.40     | 11.18           | 2.22                              | 0.93                          | -304          | 36.0                         |          |
| 1055 |                         | 15.95      | 21.99     | 11.12           | 2.23                              | 0.28                          | -411          | 10.1                         |          |
| 1100 |                         | 15.95      | 22.08     | 11.13           | 2.23                              | 0.29                          | -424          | 4.2                          |          |
| 1105 |                         |            | 22.17     | 11.14           | 2.23                              | 0.31                          | -433          | 4.31                         |          |
| 1110 |                         |            | 22.20     | 11.13           | 2.22                              | 0.27                          | -435          | 4.04                         |          |
| 1115 |                         |            | 22.29     | 11.13           | 2.20                              | 0.31                          | -439          | 4.57                         | ✓        |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                        |            | Well Inspection                                                                                                 |  |
|------------------------------------|------------|---------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------|--|
| COA-MWI-004                        |            | 1120                                  |            | 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,                                  |            | 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                                                                   |  |
| 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:<br>Sampled By:           |            |                                       |            |                                                                                                                 |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: COA-MWS-004

Project Name: COA GW Q3 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft): 2

Date: 6/5/22

Depth to Water (ft): 14.93

One Well Volume (gal):

Product Thickness (ft): —

Flow Rate (mL/min) 300

Depth to Bottom (ft):

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1010 |                         |            | 22.99     | 11.30           | 2.30                              | 0.63                          | -401          | 15.0                         |          |
| 1015 |                         | 14.97      | 22.21     | 11.26           | 2.32                              | 0.60                          | -403          | 10.8                         |          |
| 1020 |                         |            | 21.22     | 11.20           | 2.36                              | 0.35                          | -403          | 9.9                          |          |
| 1025 |                         | 14.97      | 21.17     | 11.22           | 2.39                              | 0.30                          | -404          | 9.1                          |          |
| 1030 |                         |            | 20.72     | 11.21           | 2.42                              | 0.33                          | -405          | 9.3                          |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                        |                        | Well Inspection                                                                                         |                                     |
|------------------------------------|------------|---------------------------------------|------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------|
| COA-MWS-004                        |            | 1035                                  |                        | 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                          |                        | Poor: heavily cracked                                                                                   |                                     |
| TPH-GRO                            |            | and Cd                                |                        | Unsure: pad has been buried by site activities                                                          |                                     |
| TPH-DRO                            |            | BTEX and                              | X                      | Bolts in place                                                                                          |                                     |
| O&G                                |            | naphthalene                           |                        | 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                |            | Alkalinity, 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"/> |
|                                    |            |                                       | Well permit is present | <input checked="" type="checkbox"/>                                                                     |                                     |

Comments:

Sampled By

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                     |                                     |
|-------------------------------------|-------------------------------------|
| Well Number: <u>COA-MW-001</u>      | Project Name: <u>COA GW Q3 2024</u> |
| Well Diameter (in): <u>2</u>        | Project Number: <u>21010210</u>     |
| Depth to Product (ft): <u>13.60</u> | Date: <u>6/5/24</u>                 |
| Depth to Water (ft): <u>13.63</u>   | One Well Volume (gal):              |
| Product Thickness (ft): <u>0.03</u> | Flow Rate (mL/min) <u>200</u>       |
| Depth to Bottom (ft):               | 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 |
|-------------|-------------------------|--------------|--------------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| <u>1255</u> |                         |              | <u>24.35</u> | <u>11.23</u>    | <u>2.09</u>                       | <u>0.81</u>                   | <u>-195</u>   | <u>69.2</u>                  |          |
| <u>1300</u> |                         | <u>13.65</u> | <u>23.19</u> | <u>11.23</u>    | <u>2.14</u>                       | <u>0.55</u>                   | <u>-206</u>   | <u>73.8</u>                  |          |
| <u>1305</u> |                         |              | <u>22.09</u> | <u>11.25</u>    | <u>2.19</u>                       | <u>0.46</u>                   | <u>-215</u>   | <u>37.9</u>                  |          |
| <u>1310</u> |                         | <u>13.65</u> | <u>22.00</u> | <u>11.26</u>    | <u>2.20</u>                       | <u>0.40</u>                   | <u>-222</u>   | <u>36.0</u>                  |          |
| <u>1315</u> |                         |              | <u>21.84</u> | <u>11.26</u>    | <u>2.21</u>                       | <u>0.31</u>                   | <u>-231</u>   | <u>37.4</u>                  |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          | Time Collected | Well Inspection                                                                                                 |
|------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------|
| <u>COA-MW-001</u>                  | <u>1320</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                         |                |                                                                                                                 |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                   |                                     |
|-----------------------------------|-------------------------------------|
| Well Number: <u>COA-MW-003</u>    | Project Name: <u>COA GW Q3 2024</u> |
| Well Diameter (in): <u>2</u>      | Project Number: <u>21010210</u>     |
| Depth to Product (ft): <u>/</u>   | Date: <u>6/5/24</u>                 |
| Depth to Water (ft): <u>14.50</u> | One Well Volume (gal):              |
| Product Thickness (ft):           | Flow Rate (mL/min) <u>300</u>       |
| Depth to Bottom (ft):             | 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 |
|-----------------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| <del>1140</del> |                         |            | 23.41     | 10.92           | 2.97                              | 0.48                          | -256          | 25.4                         |          |
| <del>1145</del> |                         | 14.51      | 22.48     | 10.99           | 2.76                              | 0.32                          | -262          | 21.8                         |          |
| 1120            |                         |            | 22.19     | 10.98           | 2.74                              | 0.29                          | -274          | 17.0                         |          |
| 1125            |                         | 14.52      | 22.17     | 10.98           | 2.53                              | 0.22                          | -286          | 16.8                         |          |
| 1130            |                         |            | 22.32     | 10.96           | 2.37                              | 0.21                          | -299          | 8.1                          |          |
| 1135            |                         |            | 22.30     | 10.95           | 2.33                              | 0.20                          | -304          | 7.7                          |          |
| 1146            |                         |            | 22.24     | 10.96           | 2.31                              | 0.22                          | -301          | 7.8                          |          |
|                 |                         |            |           |                 |                                   |                               |               |                              |          |
|                 |                         |            |           |                 |                                   |                               |               |                              |          |
|                 |                         |            |           |                 |                                   |                               |               |                              |          |
|                 |                         |            |           |                 |                                   |                               |               |                              |          |
|                 |                         |            |           |                 |                                   |                               |               |                              |          |
|                 |                         |            |           |                 |                                   |                               |               |                              |          |
|                 |                         |            |           |                 |                                   |                               |               |                              |          |
|                 |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                 |                                     | Well Inspection                                                                                                                                          |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| COA-MW-003                         |            | <del>1145</del> 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?                          | 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                                                                                           |  |
| 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<br>_____ 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:<br>Sampled By:           |            |                                                                                                                |                                     |                                                                                                                                                          |  |



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                     |                                     |
|-------------------------------------|-------------------------------------|
| Well Number: <u>COA-MW-001</u>      | Project Name: <u>COA GW Q3 2024</u> |
| Well Diameter (in): <u>2</u>        | Project Number: <u>21010210</u>     |
| Depth to Product (ft): <u>13.62</u> | Date:                               |
| Depth to Water (ft): <u>17.65</u>   | One Well Volume (gal):              |
| Product Thickness (ft): <u>0.03</u> | Flow Rate (mL/min)                  |
| Depth to Bottom (ft):               | 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 |
|-------------|-------------------------|--------------|--------------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| <u>1510</u> |                         |              | <u>24.78</u> | <u>11.34</u>    | <u>2.26</u>                       | <u>0.19</u>                   | <u>-289</u>   | <u>34.9</u>                  | <u>2</u> |
| <u>1515</u> |                         | <u>13.69</u> | <u>23.98</u> | <u>11.36</u>    | <u>2.28</u>                       | <u>0.15</u>                   | <u>-299</u>   | <u>32.8</u>                  | <u>3</u> |
| <u>1520</u> |                         |              | <u>23.13</u> | <u>11.38</u>    | <u>2.30</u>                       | <u>0.14</u>                   | <u>-305</u>   | <u>29.7</u>                  | <u>✓</u> |
| <u>1525</u> |                         |              | <u>23.26</u> | <u>11.38</u>    | <u>2.29</u>                       | <u>0.13</u>                   | <u>-307</u>   | <u>29.0</u>                  | <u>✓</u> |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          | Time Collected | Well Inspection                                                                                                 |
|------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------|
|                                    | <u>1530</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 |
| 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:      |                                                                                                                 |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CO196-MWS

Project Name: COA GW Q3 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft): -

Date: 6/6/24

Depth to Water (ft): 12.85

One Well Volume (gal):

Product Thickness (ft): -

Flow Rate (mL/min) > 150 mL/min

Depth to Bottom (ft): 30.9

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 |
|-------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 14:38 |                         | 12.85      | 24.73     | 12.69           | 2.53                              | 2.60                          | -113          | 10.09                        |          |
| 14:43 |                         | 12.85      | 22.96     | 12.59           | 2.34                              | 0.06                          | -138          | 6.91                         |          |
| 14:48 |                         | 12.85      | 22.87     | 12.58           | 2.29                              | 0.00                          | -153          | 5.82                         |          |
| 14:53 |                         | 12.85      | 22.35     | 12.59           | 2.29                              | 0.00                          | -161          | 5.92                         |          |
| 14:58 |                         | 12.85      | 23.54     | 12.59           | 2.32                              | 0.00                          | -164          | 5.97                         |          |
| 15:03 |                         | 12.85      | 23.53     | 12.60           | 2.33                              | 0.00                          | -169          | 5.62                         |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                                                                          |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| CO196-mws                          |            | 15:10                                                                                                          |            | 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,                                                                                                           |            | 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, 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<br>_____ 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 <u>WLF</u>              |            | Comments: <u>Clear, no odors</u>                                                                               |            |                                                                                                                                                          |  |

## Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                   |                                     |
|-----------------------------------|-------------------------------------|
| Well Number: <u>CO195 - MW 5</u>  | Project Name: <u>COA GW Q3 2024</u> |
| Well Diameter (in): <u>2</u>      | Project Number: <u>21010210</u>     |
| Depth to Product (ft): <u>-</u>   | Date: <u>6/6/24</u>                 |
| Depth to Water (ft): <u>13.45</u> | One Well Volume (gal):              |
| Product Thickness (ft): <u>-</u>  | Flow Rate (mL/min)                  |
| Depth to Bottom (ft): <u>38.4</u> | 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 |
|-------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 13:52 |                         | 13.47      | 23.71     | 12.52           | 1.26                              | 3.00                          | -66           | 7.63                         |          |
| 13:57 |                         | 13.48      | 21.22     | 11.79           | 0.349                             | 0.14                          | -56           | 5.96                         |          |
| 14:02 |                         | 13.48      | 21.05     | 12.67           | 1.52                              | 0.02                          | -158          | 6.69                         |          |
| 14:07 |                         | 13.48      | 21.09     | 12.80           | 2.27                              | 0.00                          | -205          | 7.11                         |          |
| 14:12 |                         | 13.48      | 21.11     | 12.84           | 2.49                              | 0.00                          | -225          | 7.55                         |          |
| 14:17 |                         | 13.48      | 21.34     | 12.85           | 2.54                              | 0.00                          | -231          | 7.73                         |          |
| 14:22 |                         | 13.48      | 21.47     | 12.80           | 2.54                              | 0.04                          | -230          | 7.61                         |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |

### SAMPLE RECORD AND WELL DETAILS

| Sample ID                          | Time Collected | Well Inspection                                                                                                 |
|------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------|
| <u>CO195 - MW 5</u>                | <u>1425</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                                                                                          |

|                          |                                                    |
|--------------------------|----------------------------------------------------|
| Sampled By<br><u>WRF</u> | Comments: <u>Slight Petro odor, clear no smell</u> |
|--------------------------|----------------------------------------------------|

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                   |                                          |
|-----------------------------------|------------------------------------------|
| Well Number: <u>CO194-mw3</u>     | Project Name: <u>COA GW Q3 2024</u>      |
| Well Diameter (in): <u>2</u>      | Project Number: <u>21010210</u>          |
| Depth to Product (ft): <u>-</u>   | Date: <u>6/6/24</u>                      |
| Depth to Water (ft): <u>13.29</u> | One Well Volume (gal):                   |
| Product Thickness (ft): <u>-</u>  | Flow Rate (mL/min) <u>260-250 mL/min</u> |
| Depth to Bottom (ft): <u>24.9</u> | 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 |
|-------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 12:45 |                         | 13.29      | 25.18     | 13.36           | 7.73                              | 4.24                          | -162          | 7.16                         |          |
| 12:50 |                         | 13.29      | 25.93     | 13.42           | 7.50                              | 0.13                          | -199          | 7.06                         |          |
| 12:55 |                         | 13.29      | 25.64     | 13.45           | 7.62                              | 0.06                          | -212          | 7.51                         |          |
| 13:00 |                         | 13.29      | 25.37     | 13.47           | 7.68                              | 0.12                          | -213          | 6.30                         |          |
| 13:05 |                         | 13.29      | 25.11     | 13.49           | 7.72                              | 0.10                          | -211          | 6.14                         |          |
| 13:10 |                         | 13.29      | 24.40     | 13.50           | 7.71                              | 0.08                          | -208          | 6.52                         |          |
| 13:15 |                         | 13.29      | 25.05     | 13.49           | 7.68                              | 0.10                          | -199          | 6.37                         |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                                                                          |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| CO194-mw3                          |            | 13:20                                                                                                          |            | 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                      |            | 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<br>_____ 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: <u>Clear, No odors</u>   |            |                                                                                                                |            |                                                                                                                                                          |  |
| Sampled By: <u>WLF</u>             |            |                                                                                                                |            |                                                                                                                                                          |  |



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CO198-MWS

Project Name: COA GW Q3 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft): —

Date: 6/6/24

Depth to Water (ft): 13.48

One Well Volume (gal):

Product Thickness (ft): —

Flow Rate (mL/min) : 150 - 200 mL/min

Depth to Bottom (ft): 33.1

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 |
|-------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 12:00 |                         | 13.45      | 23.81     | 12.47           | 8.35                              | 2.21                          | -272          | 6.65                         |          |
| 12:05 |                         | 13.45      | 23.14     | 13.02           | 8.47                              | 1.17                          | -318          | 7.11                         |          |
| 12:10 |                         | 13.46      | 22.72     | 13.19           | 8.59                              | 0.22                          | -336          | 7.18                         |          |
| 12:15 |                         | 13.46      | 22.46     | 13.28           | 9.71                              | 0.00                          | -349          | 7.91                         |          |
| 12:20 |                         | 13.46      | 22.33     | 13.32           | 10.1                              | 0.00                          | -356          | 8.07                         |          |
| 12:25 |                         | 13.47      | 22.23     | 13.34           | 10.2                              | 0.00                          | -360          | 7.12                         |          |
| 12:30 |                         | 13.47      | 22.09     | 13.35           | 10.3                              | 0.00                          | -363          | 6.44                         |          |
| 1     |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                                                                  |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------|--|
| CO198-MWS                          |            | 12:35                                                                                                          |            | 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                      |            | 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, 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<br>_____ 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<br>WLF                  |            | Comments: <u>Clear, slight peto odor, no smell</u>                                                             |            |                                                                                                                                                  |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                    |                                     |
|------------------------------------|-------------------------------------|
| Well Number: <u>CO30 - P2M 060</u> | Project Name: <u>COA GW Q3 2024</u> |
| Well Diameter (in): <u>2</u>       | Project Number: <u>21010210</u>     |
| Depth to Product (ft): <u>—</u>    | Date: <u>6/6/24</u>                 |
| Depth to Water (ft): <u>12.90</u>  | One Well Volume (gal):              |
| Product Thickness (ft):            | Flow Rate (mL/min)                  |
| Depth to Bottom (ft): <u>23.7</u>  | 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 |
|-------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 10:40 |                         | 13.13      | 21.82     | 12.11           | 6.43                              | 1.24                          | -63           | 8.99                         |          |
| 10:45 |                         | 12.90      | 21.83     | 12.72           | 6.42                              | 0.00                          | -105          | 6.97                         |          |
| 10:50 |                         | 12.88      | 22.04     | 12.74           | 6.44                              | 0.43                          | -120          | 8.55                         |          |
| 10:55 |                         | 12.85      | 22.24     | 12.75           | 6.41                              | 0.11                          | -127          | 8.76                         |          |
| 11:00 |                         | 12.85      | 22.80     | 12.75           | 6.40                              | 0.42                          | -134          | 8.34                         |          |
| 11:05 |                         | 12.82      | 23.13     | 12.21           | 6.63                              | 0.00                          | -127          | 8.45                         |          |
| 11:10 |                         | 13.00      | 23.31     | 11.57           | 6.82                              | 0.00                          | -113          | 8.56                         |          |
| 11:15 |                         | 12.89      | 23.65     | 10.35           | 7.22                              | 0.00                          | -146          | 9.24                         |          |
| 11:20 |                         | 12.88      | 23.84     | 9.47            | 7.94                              | 0.00                          | -273          | 8.56                         |          |
| 11:25 |                         | 12.90      | 24.03     | 9.17            | 6.38                              | 0.00                          | -229          | 5.90                         |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                                                                          |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| CO30 - P2M 060                     |            | 11:45                                                                                                          |            | 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                                                                                                   |            | Poor: heavily cracked                                                                                                                                    |  |
| TPH-GRO                            |            | and Cd                                                                                                         |            | Unsure: pad has been buried by site activities                                                                                                           |  |
| TPH-DRO                            |            | BTEX and                                                                                                       | X          | Bolts in place                                                                                                                                           |  |
| O&G                                |            | naphthalene                                                                                                    |            | 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, 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<br>_____ 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: Clear, slight sulfur/rotto odor

Sampled By: NJP

[illegible]

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: 1030-P2M015

Project Name: COA GW Q3 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft): -

Date: 6/6/24

Depth to Water (ft): 11.39

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min)

Depth to Bottom (ft):

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 |
|-------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 9:57  |                         | 11.47      | 20.44     | 12.60           | 2.78                              | 1.07                          | -67           | 5.76                         |          |
| 10:02 |                         | 11.44      | 19.25     | 12.92           | 2.78                              | 0.08                          | -121          | 5.21                         |          |
| 10:07 |                         | 11.40      | 19.12     | 12.97           | 2.79                              | 0.00                          | -748          | 4.60                         |          |
| 10:12 |                         | 11.42      | 19.09     | 12.99           | 2.80                              | 0.00                          | -145          | 6.48                         |          |
| 10:17 |                         | 11.42      | 19.06     | 12.99           | 2.81                              | 0.00                          | -177          | 6.18                         |          |
| 10:22 |                         | 11.39      | 19.29     | 12.99           | 2.79                              | 0.00                          | -187          | 4.40                         |          |
| 10:27 |                         | 11.38      | 19.20     | 12.93           | 2.82                              | 0.00                          | -194          | 3.96                         |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |
|       |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                                           |            | Time Collected                                                                                                 |            | Well Inspection                                                                                                                                          |  |
|-----------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 1030-P2M015                                         |            | 10:30                                                                                                          |            | 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                                       |            | 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<br>_____ 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: Clear No odors<br>Sampled By: [Signature] |            |                                                                                                                |            |                                                                                                                                                          |  |



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                   |                                          |
|-----------------------------------|------------------------------------------|
| Well Number: <u>CO201-MWS</u>     | Project Name: <u>COA GW Q3 2024</u>      |
| Well Diameter (in): <u>2"</u>     | Project Number: <u>21010210</u>          |
| Depth to Product (ft): <u>-</u>   | Date: <u>6/6/24</u>                      |
| Depth to Water (ft): <u>12.20</u> | One Well Volume (gal):                   |
| Product Thickness (ft):           | Flow Rate (mL/min) <u>150 200 mL/min</u> |
| Depth to Bottom (ft): <u>26.1</u> | 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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 9:12 |                         | 12.48      | 22.12     | 9.03            | 2.34                              | 1.14                          | 78            | 7.45                         |          |
| 9:17 |                         | 12.45      | 21.36     | 11.82           | 2.37                              | 0.31                          | -15           | 7.75                         |          |
| 9:22 |                         | 12.45      | 21.11     | 12.00           | 2.43                              | 0.15                          | -74           | 5.88                         |          |
| 9:27 |                         | 12.45      | 20.98     | 12.05           | 2.43                              | 0.09                          | -62           | 5.80                         |          |
| 9:32 |                         | 12.45      | 20.95     | 12.07           | 2.43                              | 0.07                          | -75           | 5.40                         |          |
| 9:37 |                         | 12.45      | 20.96     | 12.08           | 2.45                              | 0.04                          | -85           | 5.75                         |          |
| 9:42 |                         | 12.45      | 21.01     | 12.06           | 2.47                              | 0.04                          | -93           | 4.61                         |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

|                                    |            |                                                                                                                |            |                                                                                                                                                          |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                                                                          |  |
| CO201-MWS                          |            | 9:45                                                                                                           |            | 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                                                                                           | X          | Unsure: pad has been buried by site activities                                                                                                           |  |
| O&G                                |            |                                                                                                                |            | Bolts in place                                                                                                                                           |  |
|                                    |            |                                                                                                                |            | 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, 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<br>_____ 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>WLF</u>             |            |                                                                                                                |            | Well permit is present                                                                                                                                   |  |
| Clear no odors                     |            |                                                                                                                |            |                                                                                                                                                          |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                   |                                  |
|-----------------------------------|----------------------------------|
| Well Number: <u>030-P2m015</u>    | Project Name: <u>0A G-3 2024</u> |
| Well Diameter (in): <u>2</u>      | Project Number: <u>21010210</u>  |
| Depth to Product (ft): <u>—</u>   | Date: <u>8/12/24</u>             |
| Depth to Water (ft): <u>11.55</u> | One Well Volume (gal):           |
| Product Thickness (ft): <u>—</u>  | Flow Rate (mL/min) <u>10</u>     |
| Depth to Bottom (ft):             | 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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1250 |                         | 11.55      | 26.87     | 10.34           | 2.75                              | 5.22                          | -32           | 4.34                         |          |
| 1255 |                         | 11.54      | 26.83     | 11.39           | 2.74                              | 3.12                          | -134          | 2.01                         |          |
| 1300 |                         | 11.54      | 26.42     | 11.43           | 2.75                              | 2.75                          | -143          | 0.61                         |          |
| 1305 |                         | ↓          | 26.45     | 11.47           | 2.76                              | 1.73                          | -184          | 0.87                         |          |
| 1310 |                         | ↓          | 26.49     | 11.50           | 2.77                              | 1.72                          | -194          | 1.35                         |          |
| 1315 |                         | ↓          | 26.62     | 11.53           | 2.76                              | 0.00                          | -202          | 0.29                         |          |
| 1320 |                         | ↓          | 26.01     | 11.94           | 2.70                              | 0.20                          | -208          | 0.88                         |          |
| 1325 |                         | ↓          | 26.76     | 11.56           | 2.75                              | 0.00                          | -212          | 0.51                         |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

|                                    |            |                                                                                                                |            |                                                                                                         |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|---------------------------------------------------------------------------------------------------------|--|
| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                         |  |
| 030-P2m015                         |            | 1320 1330                                                                                                      |            | 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                                                                                           | X          | Unsure: pad has been buried by site activities                                                          |  |
| O&G                                |            |                                                                                                                |            | Bolts in place                                                                                          |  |
| Total Cyanide                      |            | VOC,                                                                                                           |            | Bolts are missing                                                                                       |  |
| TCL SVOCs                          |            | 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" 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:                                                                                                      |            |                                                                                                         |  |
| AS                                 |            |                                                                                                                |            |                                                                                                         |  |

| Low Flow Sampling<br>Purge Log     |                         |                                       |            |                                                                                                        |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                               |               |                              |          |
|------------------------------------|-------------------------|---------------------------------------|------------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|------------------------------|----------|
| Well Number: <u>0195-mw</u>        |                         |                                       |            |                                                                                                        | Project Name: <u>QA Q3 G-2024</u>                                                                                                                   |                               |               |                              |          |
| Well Diameter (in): <u>2</u>       |                         |                                       |            |                                                                                                        | Project Number: <u>8/12/24 21010210-D</u>                                                                                                           |                               |               |                              |          |
| Depth to Product (ft): <u>—</u>    |                         |                                       |            |                                                                                                        | Date: <u>8/12/24</u>                                                                                                                                |                               |               |                              |          |
| Depth to Water (ft): <u>13.64</u>  |                         |                                       |            |                                                                                                        | One Well Volume (gal):                                                                                                                              |                               |               |                              |          |
| Product Thickness (ft): <u>—</u>   |                         |                                       |            |                                                                                                        | Flow Rate (mL/min)                                                                                                                                  |                               |               |                              |          |
| Depth to Bottom (ft):              |                         |                                       |            |                                                                                                        | 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 |
| 1410                               |                         | 13.65                                 | 29.27      | 8.89                                                                                                   | 0.329                                                                                                                                               | 2.29                          | 50            | 2.32                         |          |
| 1415                               |                         | 13.60                                 | 28.12      | 9.88                                                                                                   | 0.359                                                                                                                                               | 3.02                          | -12           | 2.50                         |          |
| 1420                               |                         | 13.60                                 | 27.47      | 11.11                                                                                                  | 1.59                                                                                                                                                | 1.85                          | -130          | 1.22                         |          |
| 1425                               |                         | ↓                                     | 26.99      | 11.41                                                                                                  | 2.03                                                                                                                                                | 2.01                          | -187          | 0.84                         |          |
| 1430                               |                         | ↓                                     | 26.62      | 11.90                                                                                                  | 2.15                                                                                                                                                | 1.93                          | -200          | 0.38                         |          |
| 1435                               |                         | ↓                                     | 26.41      | 11.93                                                                                                  | 2.23                                                                                                                                                | 1.78                          | -205          | 0.13                         |          |
| 1440                               |                         | ↓                                     | 26.33      | 11.54                                                                                                  | 2.25                                                                                                                                                | 1.82                          | -210          | 0.15                         |          |
| 1445                               |                         | ↓                                     | 26.23      | 11.99                                                                                                  | 2.28                                                                                                                                                | 1.76                          | -217          | 0.0                          |          |
|                                    |                         |                                       |            |                                                                                                        |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                       |            |                                                                                                        |                                                                                                                                                     |                               |               |                              |          |
| SAMPLE RECORD AND WELL DETAILS     |                         |                                       |            |                                                                                                        |                                                                                                                                                     |                               |               |                              |          |
| Sample ID                          |                         | Time Collected                        |            | Well Inspection                                                                                        |                                                                                                                                                     |                               |               |                              |          |
| <u>0195-mw</u>                     |                         | <u>1440</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                          |            | Poor: heavily cracked                                                                                  |                                                                                                                                                     |                               |               |                              |          |
| TPH-GRO                            |                         | and Cd                                |            | Unsure: pad has been buried by site activities                                                         |                                                                                                                                                     |                               |               |                              |          |
| TPH-DRO                            |                         | BTEX and naphthalene                  | <u>X</u>   | 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" 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                       |                         | Specific Conductance                  |            | 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                                                                                         |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                       |            | Well permit is present                                                                                 |                                                                                                                                                     |                               |               |                              |          |
| Sampled By <u>JS</u>               |                         |                                       |            |                                                                                                        |                                                                                                                                                     |                               |               |                              |          |

| Low Flow Sampling<br>Purge Log     |                         |                                                     |            |                                                                                                                                |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                               |               |                              |          |
|------------------------------------|-------------------------|-----------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|------------------------------|----------|
| Well Number: <u>041-P2m036</u>     |                         |                                                     |            |                                                                                                                                | Project Name: <u>GA 64 63 2024</u>                                                                                                                  |                               |               |                              |          |
| Well Diameter (in): <u>2</u>       |                         |                                                     |            |                                                                                                                                | Project Number: <u>2106274 10</u>                                                                                                                   |                               |               |                              |          |
| Depth to Product (ft): <u>—</u>    |                         |                                                     |            |                                                                                                                                | Date: <u>8/13/24</u>                                                                                                                                |                               |               |                              |          |
| Depth to Water (ft): <u>13.18</u>  |                         |                                                     |            |                                                                                                                                | One Well Volume (gal):                                                                                                                              |                               |               |                              |          |
| Product Thickness (ft): <u>—</u>   |                         |                                                     |            |                                                                                                                                | Flow Rate (mL/min) <u>100</u>                                                                                                                       |                               |               |                              |          |
| Depth to Bottom (ft):              |                         |                                                     |            |                                                                                                                                | 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 |
| 0820                               |                         | 13.19                                               | 21.32      | 10.31                                                                                                                          | 1.12                                                                                                                                                | 1.18                          | -233          | 3.6                          |          |
| 0825                               |                         | 13.19                                               | 21.35      | 10.37                                                                                                                          | 1.11                                                                                                                                                | 0.89                          | -247          | 1.8                          |          |
| 0830                               |                         | 12.19                                               | 21.35      | 10.40                                                                                                                          | 1.11                                                                                                                                                | 1.17                          | -260          | 1.7                          |          |
| 0835                               |                         | ↓                                                   | 21.38      | 10.43                                                                                                                          | 1.12                                                                                                                                                | 1.62                          | -273          | 1.7                          |          |
| 0840                               |                         | ↓                                                   | 21.43      | 10.45                                                                                                                          | 1.12                                                                                                                                                | 1.92                          | -286          | 0.8                          |          |
| 0845                               |                         | ↓                                                   | 21.47      | 10.48                                                                                                                          | 1.13                                                                                                                                                | 1.95                          | -298          | 0.1                          |          |
| 0850                               |                         | ↓                                                   | 21.55      | 10.49                                                                                                                          | 1.14                                                                                                                                                | 2.05                          | -308          | 0.0                          |          |
| 0855                               |                         | ↓                                                   | 21.44      | 10.50                                                                                                                          | 1.14                                                                                                                                                | 2.19                          | -308          | 0.0                          |          |
|                                    |                         |                                                     |            |                                                                                                                                |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                                     |            |                                                                                                                                |                                                                                                                                                     |                               |               |                              |          |
| SAMPLE RECORD AND WELL DETAILS     |                         |                                                     |            |                                                                                                                                |                                                                                                                                                     |                               |               |                              |          |
| Sample ID                          |                         | Time Collected                                      |            | Well Inspection                                                                                                                |                                                                                                                                                     |                               |               |                              |          |
| <u>041-P2m036</u>                  |                         | <u>0900</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                                        |            | Poor: heavily cracked                                                                                                          |                                                                                                                                                     |                               |               |                              |          |
| TPH-GRO                            |                         | and Cd                                              |            | Unsure: pad has been buried by site activities                                                                                 |                                                                                                                                                     |                               |               |                              |          |
| TPH-DRO                            |                         | BTEX and                                            | <u>X</u>   | Bolts in place                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |
| O&G                                |                         | naphthalene                                         |            | 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, Chloride, Turbidity, TDS, |            | 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<br>ft x gal/ft = (gal) |                                                                                                                                                     |                               |               |                              |          |
| Hexavalent Chromium                |                         | Specific Conductance                                |            | 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 <u>TS</u>               |                         | Comments:                                           |            |                                                                                                                                |                                                                                                                                                     |                               |               |                              |          |



| Low Flow Sampling<br>Purge Log     |                         |                                                                   |            |                                                                                                         |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                               |               |                              |          |
|------------------------------------|-------------------------|-------------------------------------------------------------------|------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|------------------------------|----------|
| Well Number: 041-P2-m01            |                         |                                                                   |            |                                                                                                         | Project Name: 04 G3 6-20-24                                                                                                                         |                               |               |                              |          |
| Well Diameter (in): 2              |                         |                                                                   |            |                                                                                                         | Project Number: 21010210                                                                                                                            |                               |               |                              |          |
| Depth to Product (ft): —           |                         |                                                                   |            |                                                                                                         | Date: 8/13/24                                                                                                                                       |                               |               |                              |          |
| Depth to Water (ft): 12-40         |                         |                                                                   |            |                                                                                                         | One Well Volume (gal):                                                                                                                              |                               |               |                              |          |
| Product Thickness (ft): —          |                         |                                                                   |            |                                                                                                         | Flow Rate (mL/min) 100                                                                                                                              |                               |               |                              |          |
| Depth to Bottom (ft):              |                         |                                                                   |            |                                                                                                         | 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 |
| 1015                               |                         | 12.46                                                             | 27.19      | 7.14                                                                                                    | 1.00                                                                                                                                                | 11.27                         | -177          | 4.0                          |          |
| 1020                               |                         | 12.47                                                             | 27.27      | 7.17                                                                                                    | 1.02                                                                                                                                                | 21.62                         | -217          | 7.0                          |          |
| 1025                               |                         | 12.48                                                             | 27.46      | 7.19                                                                                                    | 0.984                                                                                                                                               | 20.96                         | -235          | 5.8                          |          |
| 1030                               |                         | 12.48                                                             | 27.62      | 7.20                                                                                                    | 0.977                                                                                                                                               | 20.59                         | -244          | 4.5                          |          |
| 1035                               |                         | 12.48                                                             | 27.84      | 7.21                                                                                                    | 0.975                                                                                                                                               | 19.83                         | -252          | 2.0                          |          |
| 1040                               |                         | ↓                                                                 | 28.07      | 7.22                                                                                                    | 0.971                                                                                                                                               | 18.58                         | -256          | 1.9                          |          |
| 1045                               |                         | ↓                                                                 | 28.22      | 7.23                                                                                                    | 0.971                                                                                                                                               | 17.23                         | -259          | 1.9                          |          |
| 1050                               |                         | ↓                                                                 | 28.34      | 7.23                                                                                                    | 0.972                                                                                                                                               | 15.95                         | -261          | 1.8                          |          |
| 1055                               |                         | ↓                                                                 | 27.10      | 7.25                                                                                                    | 1.04                                                                                                                                                | —                             | -265          | 1.7                          |          |
| 1100                               |                         | ↓                                                                 | 27.25      | 7.25                                                                                                    | 1.05                                                                                                                                                | 9.48                          | -231          | 2.7                          |          |
| SAMPLE RECORD AND WELL DETAILS     |                         |                                                                   |            |                                                                                                         |                                                                                                                                                     |                               |               |                              |          |
| Sample ID                          |                         | Time Collected                                                    |            | Well Inspection                                                                                         |                                                                                                                                                     |                               |               |                              |          |
| 041-P2-m01                         |                         | 1120                                                              |            | 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                                                      |            | Poor: heavily cracked                                                                                   |                                                                                                                                                     |                               |               |                              |          |
| TPH-GRO                            |                         | and Cd                                                            |            | 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, 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, TDS,                                         |            | Well is structurally sound: not bent, broken, and no blockage identified                                |                                                                                                                                                     |                               |               |                              |          |
| PCB                                |                         | Specific Conductance                                              |            | 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: No activity during 1055 take test. H2S off and re-green |            |                                                                                                         |                                                                                                                                                     |                               |               |                              |          |

6



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                              |                                            |
|------------------------------|--------------------------------------------|
| Well Number: C0411 - P2m 001 | Project Name: C020362                      |
| Well Diameter (in): 2        | Project Number: <del>2010210</del> 2010210 |
| Depth to Product (ft): -     | Date: 8/13/21                              |
| Depth to Water (ft): 12.40   | One Well Volume (gal):                     |
| Product Thickness (ft): -    | Flow Rate (mL/min) 600                     |
| Depth to Bottom (ft): -      | Length of time Purged (min)                |

[illegible]

| Sample ID                          |            | Time Collected                                                                                                                |            | Well Inspection                                                                                                                                  |  |
|------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------|--|
| C041-R2m01                         |            | 1120                                                                                                                          |            | 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                                                                                                          | X          | 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<br>_____ 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:

| Low Flow Sampling<br>Purge Log     |                         |                                                                                                                               |            |                                                                                                         |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                               |               |                              |          |  |  |
|------------------------------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|------------------------------|----------|--|--|
| Well Number: <u>C027-P2m012</u>    |                         |                                                                                                                               |            |                                                                                                         | Project Name: <u>C027-P2m012</u>                                                                                                                    |                               |               |                              |          |  |  |
| Well Diameter (in): <u>2</u>       |                         |                                                                                                                               |            |                                                                                                         | Project Number: <u>266219</u>                                                                                                                       |                               |               |                              |          |  |  |
| Depth to Product (ft): <u>—</u>    |                         |                                                                                                                               |            |                                                                                                         | Date: <u>8/13/24</u>                                                                                                                                |                               |               |                              |          |  |  |
| Depth to Water (ft): <u>4.54</u>   |                         |                                                                                                                               |            |                                                                                                         | One Well Volume (gal):                                                                                                                              |                               |               |                              |          |  |  |
| Product Thickness (ft): <u>—</u>   |                         |                                                                                                                               |            |                                                                                                         | Flow Rate (mL/min): <u>10</u>                                                                                                                       |                               |               |                              |          |  |  |
| Depth to Bottom (ft):              |                         |                                                                                                                               |            |                                                                                                         | 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 |  |  |
| 1145                               |                         | 4.54                                                                                                                          | 24.18      | 10.93                                                                                                   | 1.66                                                                                                                                                | 0.77                          | -309          | 4.9                          |          |  |  |
| 1150                               |                         | 4.54                                                                                                                          | 24.28      | 10.95                                                                                                   | 1.60                                                                                                                                                | 1.72                          | -323          | 11.1                         |          |  |  |
| 1155                               |                         | ↓                                                                                                                             | 24.18      | 10.94                                                                                                   | 1.65                                                                                                                                                | 1.79                          | -323          | 12.1                         |          |  |  |
| 1200                               |                         | ↓                                                                                                                             | 23.11      | 10.91                                                                                                   | 1.63                                                                                                                                                | 1.26                          | -324          | 4.2                          |          |  |  |
| 1205                               |                         | ↓                                                                                                                             | 23.10      | 10.97                                                                                                   | 1.58                                                                                                                                                | 1.64                          | -379          | 1.3                          |          |  |  |
| 1210                               |                         | ↓                                                                                                                             | 23.05      | 10.89                                                                                                   | 1.54                                                                                                                                                | 1.75                          | -349          | 1.1                          |          |  |  |
| 1215                               |                         | ↓                                                                                                                             | 22.86      | 10.81                                                                                                   | 1.50                                                                                                                                                | 1.55                          | -357          | 1.0                          |          |  |  |
|                                    |                         |                                                                                                                               |            |                                                                                                         |                                                                                                                                                     |                               |               |                              |          |  |  |
|                                    |                         |                                                                                                                               |            |                                                                                                         |                                                                                                                                                     |                               |               |                              |          |  |  |
|                                    |                         |                                                                                                                               |            |                                                                                                         |                                                                                                                                                     |                               |               |                              |          |  |  |
|                                    |                         |                                                                                                                               |            |                                                                                                         |                                                                                                                                                     |                               |               |                              |          |  |  |
| SAMPLE RECORD AND WELL DETAILS     |                         |                                                                                                                               |            |                                                                                                         |                                                                                                                                                     |                               |               |                              |          |  |  |
| Sample ID                          |                         | Time Collected                                                                                                                |            | Well Inspection                                                                                         |                                                                                                                                                     |                               |               |                              |          |  |  |
| <u>C027-P2m012</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                            |                         |                                                                                                                               |            | Unsure: pad has been buried by site activities                                                          |                                                                                                                                                     |                               |               |                              |          |  |  |
| TPH-DRO                            |                         | BTEX and naphthalene                                                                                                          | <u>X</u>   | 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                                                                                  |                                                                                                                                                     |                               |               |                              |          |  |  |
| Sampled By: <u>[Signature]</u>     |                         | Comments:                                                                                                                     |            |                                                                                                         |                                                                                                                                                     |                               |               |                              |          |  |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: 027-P2-0016

Project Name: 04 05 03 2020

Well Diameter (in): 2

Project Number: 210210

Depth to Product (ft): -

Date: 8/13/24

Depth to Water (ft): 6.38

One Well Volume (gal):

Product Thickness (ft): -

Flow Rate (mL/min) 10

Depth to Bottom (ft): -

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1235 |                         | 6.10       | 29.51     | 9.55            | 2.38                              | 0.38                          | -211          | 0.2                          |          |
| 1240 |                         | 6.10       | 29.97     | 9.42            | 2.23                              | 0.31                          | -257          | 0.0                          |          |
| 1245 |                         | ↓          | 30.18     | 9.36            | 2.16                              | 0.41                          | -246          | 0.0                          |          |
| 1250 |                         | ↓          | 30.29     | 9.32            | 2.03                              | 0.40                          | -243          | 0.0                          |          |
| 1255 |                         | ↓          | 30.38     | 9.27            | 1.92                              | 0.33                          | -236          | 0.0                          |          |
| 1300 |                         | ↓          | 30.95     | 9.19            | 1.89                              | 0.32                          | -227          | 0.0                          |          |
| 1305 |                         | ↓          | 31.04     | 9.12            | 1.87                              | 0.26                          | -222          | 0.0                          |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

|                                    |            |                                       |            |                                                                                                         |  |
|------------------------------------|------------|---------------------------------------|------------|---------------------------------------------------------------------------------------------------------|--|
| Sample ID                          |            | Time Collected                        |            | Well Inspection                                                                                         |  |
| 027-P2-0016                        |            | 1310                                  |            | 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                          |            | Poor: heavily cracked                                                                                   |  |
| TPH-GRO                            |            | and Cd                                |            | 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" 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,      |            | 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                                                              |  |
|                                    |            |                                       |            | Cap is present                                                                                          |  |
|                                    |            |                                       |            | Well permit is present                                                                                  |  |
| Sampled By                         |            | Comments:                             |            |                                                                                                         |  |

1 of 2

| Low Flow Sampling<br>Purge Log     |                               |                                                                          |              |                                                                                                                                                  |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                                        |                     |                                    |          |
|------------------------------------|-------------------------------|--------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------|------------------------------------|----------|
| Well Number: C093-P2m              |                               |                                                                          |              |                                                                                                                                                  | Project Name: CUA G3 G4 Z2Z4                                                                                                                        |                                        |                     |                                    |          |
| Well Diameter (in): 2              |                               |                                                                          |              |                                                                                                                                                  | Project Number: 2610210                                                                                                                             |                                        |                     |                                    |          |
| Depth to Product (ft): -           |                               |                                                                          |              |                                                                                                                                                  | Date: 8/13/24                                                                                                                                       |                                        |                     |                                    |          |
| Depth to Water (ft): 10.49         |                               |                                                                          |              |                                                                                                                                                  | One Well Volume (gal):                                                                                                                              |                                        |                     |                                    |          |
| Product Thickness (ft): -          |                               |                                                                          |              |                                                                                                                                                  | Flow Rate (mL/min): 10                                                                                                                              |                                        |                     |                                    |          |
| Depth to Bottom (ft):              |                               |                                                                          |              |                                                                                                                                                  | Length of time Purged (min):                                                                                                                        |                                        |                     |                                    |          |
| PURGING RECORD                     |                               |                                                                          |              |                                                                                                                                                  |                                                                                                                                                     |                                        |                     |                                    |          |
| Time                               | Volume<br>Purged<br>(gallons) | DTW<br>(feet)                                                            | Temp<br>(°C) | pH<br>(s.u.)<br>± 0.1                                                                                                                            | Specific<br>Conductance<br>(ms/cm)<br>± 3%                                                                                                          | Dissolved<br>Oxygen<br>(mg/L)<br>± 0.3 | ORP<br>(mV)<br>± 10 | Turbidity<br>(NTU)<br>± 10% or ≤ 5 | Comments |
| 1340                               |                               | 11.04                                                                    | 30.52        | 7.71                                                                                                                                             | 0.811                                                                                                                                               | 1.81                                   | -166                | 3.6                                |          |
| 1345                               |                               | 11.14                                                                    | 27.05        | 7.42                                                                                                                                             | 0.833                                                                                                                                               | 10.43                                  | -254                | 4.9                                |          |
| 1350                               |                               | 11.14                                                                    | 26.28        | 8.41                                                                                                                                             | 0.860                                                                                                                                               | 6.14                                   | -316                | 6.3                                |          |
| 1355                               |                               |                                                                          | 26.11        | 8.88                                                                                                                                             | 0.880                                                                                                                                               | 8.28                                   | -345                | 5.6                                |          |
| 1400                               |                               |                                                                          | 26.15        | 9.18                                                                                                                                             | 0.901                                                                                                                                               | 7.14                                   | -371                | 4.6                                |          |
| 1405                               |                               | 11.17                                                                    | 25.76        | 9.26                                                                                                                                             | 0.923                                                                                                                                               | 5.70                                   | -381                | 2.6                                |          |
| 1410                               |                               | (1.2)                                                                    | 29.60        | 9.45                                                                                                                                             | 0.941                                                                                                                                               | 5.26                                   | -388                | 2.4                                |          |
| 1415                               |                               | 11.22                                                                    | 29.45        | 9.73                                                                                                                                             | 0.957                                                                                                                                               | 6.72                                   | -413                | 1.7                                |          |
| 1420                               |                               | 11.22                                                                    | 24.97        | 10.27                                                                                                                                            | 1.00                                                                                                                                                | 3.71                                   | -438                | 2.0                                |          |
| 1426                               |                               | 11.24                                                                    | 24.16        | 10.52                                                                                                                                            | 1.04                                                                                                                                                | 3.19                                   | -454                | 3.6                                |          |
| SAMPLE RECORD AND WELL DETAILS     |                               |                                                                          |              |                                                                                                                                                  |                                                                                                                                                     |                                        |                     |                                    |          |
| Sample ID                          |                               | Time Collected                                                           |              | Well Inspection                                                                                                                                  |                                                                                                                                                     |                                        |                     |                                    |          |
| C093-P2m                           |                               | 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?   | Fair: some visible cracks and/or not sloping                                                                                                     |                                                                                                                                                     |                                        |                     |                                    |          |
| TCL-VOCs                           |                               | Dissolved Zn                                                             |              | Poor: heavily cracked                                                                                                                            |                                                                                                                                                     |                                        |                     |                                    |          |
| TPH-GRO                            |                               | and Cd                                                                   |              | Unsure: pad has been buried by site activities                                                                                                   |                                                                                                                                                     |                                        |                     |                                    |          |
| TPH-DRO                            |                               | BTEX and                                                                 | X            | Bolts in place                                                                                                                                   |                                                                                                                                                     |                                        |                     |                                    |          |
| O&G                                |                               | naphthalene                                                              |              | 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, Chloride, Turbidity, 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<br>_____ 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: <u>SA</u>              |                               | Comments:                                                                |              |                                                                                                                                                  |                                                                                                                                                     |                                        |                     |                                    |          |

## Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                            |                              |
|----------------------------|------------------------------|
| Well Number: 1093-12a      | Project Name: COT Q3 by 2024 |
| Well Diameter (in): 2      | Project Number: 26102192     |
| Depth to Product (ft): —   | Date: 8/13/24                |
| Depth to Water (ft): 10.48 | One Well Volume (gal):       |
| Product Thickness (ft): —  | Flow Rate (mL/min) 100       |
| Depth to Bottom (ft):      | Length of time Purged (min)  |

[illegible]

| Sample ID                          |            | Time Collected                        |                        | Well Inspection                                                                                         |  |
|------------------------------------|------------|---------------------------------------|------------------------|---------------------------------------------------------------------------------------------------------|--|
| C093-P2m                           |            | 1450                                  |                        | 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                  | 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" 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,      |                        | _____ ft x _____ gal/ft = _____ (gal)                                                                   |  |
| PCB                                |            | TDS,                                  |                        | Well is structurally sound: not bent, broken, and no blockage identified                                |  |
| 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                                                                                          |  |
|                                    |            |                                       | Well permit is present |                                                                                                         |  |

Sampled By

Comments:



| Low Flow Sampling<br>Purge Log     |                         |                                       |            |                                                                                                        |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                               |               |                              |          |
|------------------------------------|-------------------------|---------------------------------------|------------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|------------------------------|----------|
| Well Number: <u>0190-mu</u>        |                         |                                       |            |                                                                                                        | Project Name: <u>0603 Ca 2020</u>                                                                                                                   |                               |               |                              |          |
| Well Diameter (in): <u>3</u>       |                         |                                       |            |                                                                                                        | Project Number: <u>26020</u>                                                                                                                        |                               |               |                              |          |
| Depth to Product (ft): <u>-</u>    |                         |                                       |            |                                                                                                        | Date: <u>8/17/24</u>                                                                                                                                |                               |               |                              |          |
| Depth to Water (ft): <u>14.05</u>  |                         |                                       |            |                                                                                                        | One Well Volume (gal):                                                                                                                              |                               |               |                              |          |
| Product Thickness (ft): <u>-</u>   |                         |                                       |            |                                                                                                        | Flow Rate (mL/min) <u>0</u>                                                                                                                         |                               |               |                              |          |
| Depth to Bottom (ft): <u>-</u>     |                         |                                       |            |                                                                                                        | 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 |
| 1000                               |                         | 14.22                                 | 26.58      | 8.75                                                                                                   | 2.18                                                                                                                                                | 0.56                          | -151          | 11.0                         |          |
| 1005                               |                         | 14.22                                 | 26.53      | 7.87                                                                                                   | 2.08                                                                                                                                                | 0.11                          | -129          | 29.3                         |          |
| 1010                               |                         | 14.22                                 | 26.53      | 7.81                                                                                                   | 2.82                                                                                                                                                | 0.02                          | -137          | 19.6                         |          |
| 1015                               |                         | ↓                                     | 26.63      | 7.91                                                                                                   | 2.63                                                                                                                                                | 0.01                          | -152          | 11.4                         |          |
| 1020                               |                         | ↓                                     | 26.85      | 7.98                                                                                                   | 2.54                                                                                                                                                | 0.06                          | -160          | 8.8                          |          |
| 1025                               |                         | ↓                                     | 27.05      | 8.27                                                                                                   | 2.35                                                                                                                                                | 0.44                          | -169          | 7.4                          |          |
| 1030                               |                         | ↓                                     | 27.12      | 8.16                                                                                                   | 2.13                                                                                                                                                | 0.06                          | -174          | 7.5                          |          |
| 1035                               |                         | ↓                                     | 27.23      | 8.20                                                                                                   | 1.78                                                                                                                                                | 0.07                          | -173          | 7.7                          |          |
| 1040                               |                         | ↓                                     | 27.42      | 8.21                                                                                                   | 1.57                                                                                                                                                | 0.06                          | -174          | 8.4                          |          |
| 1045                               |                         | ↓                                     | 27.60      | 8.20                                                                                                   | 1.47                                                                                                                                                | 0.06                          | -175          | 7.8                          |          |
| SAMPLE RECORD AND WELL DETAILS     |                         |                                       |            |                                                                                                        |                                                                                                                                                     |                               |               |                              |          |
| Sample ID                          |                         | Time Collected                        |            | Well Inspection                                                                                        |                                                                                                                                                     |                               |               |                              |          |
| 0190-mu                            |                         | 1130                                  |            | 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                          |            | Poor: heavily cracked                                                                                  |                                                                                                                                                     |                               |               |                              |          |
| TPH-GRO                            |                         | and Cd                                |            | 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, 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                       |                         | Specific                              |            | Well is broken and is not able to be used                                                              |                                                                                                                                                     |                               |               |                              |          |
| Duplicate                          |                         | Conductance                           |            | Well is blocked and is not able to be used                                                             |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                       |            | Cap is present                                                                                         |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                       |            | Well permit is present                                                                                 |                                                                                                                                                     |                               |               |                              |          |
| Sampled By <u>PS</u>               |                         |                                       |            | Comments:                                                                                              |                                                                                                                                                     |                               |               |                              |          |

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| Low Flow Sampling<br>Purge Log     |                         |                                                                                                                |                        |                                                                                                                                |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                               |               |                              |          |
|------------------------------------|-------------------------|----------------------------------------------------------------------------------------------------------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|------------------------------|----------|
| Well Number: <u>CA 190-mcs</u>     |                         |                                                                                                                |                        |                                                                                                                                | Project Name: <u>CA 190-mcs 2024</u>                                                                                                                |                               |               |                              |          |
| Well Diameter (in): <u>2</u>       |                         |                                                                                                                |                        |                                                                                                                                | Project Number: <u>21010210</u>                                                                                                                     |                               |               |                              |          |
| Depth to Product (ft): <u>-</u>    |                         |                                                                                                                |                        |                                                                                                                                | Date: <u>8/14/24</u>                                                                                                                                |                               |               |                              |          |
| Depth to Water (ft): <u>14.05</u>  |                         |                                                                                                                |                        |                                                                                                                                | One Well Volume (gal):                                                                                                                              |                               |               |                              |          |
| Product Thickness (ft): <u>-</u>   |                         |                                                                                                                |                        |                                                                                                                                | Flow Rate (mL/min) <u>10</u>                                                                                                                        |                               |               |                              |          |
| Depth to Bottom (ft): <u>-</u>     |                         |                                                                                                                |                        |                                                                                                                                | 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 |
| <del>1055</del> 1100               |                         | 14.22                                                                                                          | <del>29.30</del> 29.30 | 8.08                                                                                                                           | 1.43                                                                                                                                                | 0.33                          | -175          | 12.5                         |          |
| <del>1055</del> 1105               |                         | ↓                                                                                                              | 29.30                  | 8.01                                                                                                                           | 2.32                                                                                                                                                | 0.03                          | -176          | 4.9                          |          |
| 1110                               |                         | ↓                                                                                                              | 28.92                  | 8.15                                                                                                                           | 1.75                                                                                                                                                | 0.05                          | -183          | 5.0                          |          |
| 1115                               |                         | ↓                                                                                                              | 28.95                  | 8.24                                                                                                                           | 1.49                                                                                                                                                | 0.05                          | -188          | 4.8                          |          |
| 1120                               |                         | ↓                                                                                                              | 28.79                  | 8.30                                                                                                                           | 1.36                                                                                                                                                | 0.06                          | -193          | 4.4                          |          |
| 1125                               |                         | ↓                                                                                                              | 28.87                  | 8.34                                                                                                                           | 1.35                                                                                                                                                | 0.06                          | -195          | 3.9                          |          |
| 1130                               |                         | ↓                                                                                                              | 28.90                  | 8.36                                                                                                                           | 1.31                                                                                                                                                | 0.07                          | -196          | 3.5                          |          |
|                                    |                         |                                                                                                                |                        |                                                                                                                                |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                                                                                                |                        |                                                                                                                                |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                                                                                                |                        |                                                                                                                                |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                                                                                                |                        |                                                                                                                                |                                                                                                                                                     |                               |               |                              |          |
| SAMPLE RECORD AND WELL DETAILS     |                         |                                                                                                                |                        |                                                                                                                                |                                                                                                                                                     |                               |               |                              |          |
| Sample ID                          |                         | Time Collected                                                                                                 |                        | Well Inspection                                                                                                                |                                                                                                                                                     |                               |               |                              |          |
| <u>CA 190-mcs</u>                  |                         | <u>1130</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                                                                                                   |                        | Poor: heavily cracked                                                                                                          |                                                                                                                                                     |                               |               |                              |          |
| TPH-GRO                            |                         | and Cd                                                                                                         |                        | Unsure: pad has been buried by site activities                                                                                 |                                                                                                                                                     |                               |               |                              |          |
| TPH-DRO                            |                         | BTEX and                                                                                                       | <u>X</u>               | Bolts in place                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |
| O&G                                |                         | naphthalene                                                                                                    |                        | 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, 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<br>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 <u>JS</u>               |                         | Comments: <u>1005-1055 bottom break</u>                                                                        |                        |                                                                                                                                |                                                                                                                                                     |                               |               |                              |          |



## Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                   |                                       |
|-----------------------------------|---------------------------------------|
| Well Number: <u>055-P2m000</u>    | Project Name: <u>100-03 Gr 2024</u>   |
| Well Diameter (in): <u>2</u>      | Project Number: <u>21010210</u>       |
| Depth to Product (ft): <u>—</u>   | Date: <u>8/14/24</u>                  |
| Depth to Water (ft): <u>14.06</u> | One Well Volume (gal): <u>—</u>       |
| Product Thickness (ft): <u>—</u>  | Flow Rate (mL/min): <u>14</u>         |
| Depth to Bottom (ft): <u>—</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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1155 |                         | 15.66      | 29.18     | 13.71           | 1.78                              | 1.70                          | -220          | 2.1                          |          |
| 1200 |                         | DRY        |           |                 |                                   |                               |               |                              |          |
| 1205 |                         |            |           |                 |                                   |                               |               |                              |          |
| 1210 |                         |            |           |                 |                                   |                               |               |                              |          |
| 1215 |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

### SAMPLE RECORD AND WELL DETAILS

| Sample ID                          | Time Collected      | Well Inspection                                                                                         |
|------------------------------------|---------------------|---------------------------------------------------------------------------------------------------------|
| <u>055-P2m000</u>                  | <u>8/15/24 0935</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                            |                     | 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" 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                                                                                  |

Sampled By JS

Comments: - Reduced flow rate to reduce drawdown  
- 0.13 @ 1200

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: 096-P2P001

Project Name: 6466 Q23 2r24

Well Diameter (in): 2

Project Number: 260260

Depth to Product (ft): -

Date: 8/6/24

Depth to Water (ft): 11.84

One Well Volume (gal):

Product Thickness (ft): -

Flow Rate (mL/min) 100

Depth to Bottom (ft): -

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1215 |                         | 11.84      | 31.57     | 13.58           | 2.2                               | 0.48                          | -146          | 3.0                          |          |
| 1220 |                         | 11.84      | 29.82     | 13.54           | 2.24                              | 0.37                          | -181          | 1.8                          |          |
| 1225 |                         | 11.84      | 29.29     | 13.90           | 2.24                              | 0.43                          | -203          | 1.4                          |          |
| 1230 |                         |            | 28.59     | 13.94           | 2.26                              | 0.43                          | -216          | 1.1                          |          |
| 1235 |                         |            | 29.08     | 13.96           | 2.20                              | 0.41                          | -224          | 1.0                          |          |
| 1240 |                         |            | 29.10     | 14.00           | 2.17                              | 0.41                          | -238          | 0.6                          |          |
| 1245 |                         |            | 29.15     | 14.00           | 2.14                              | 0.38                          | -231          | 0.4                          |          |
| 1250 |                         |            | 29.51     | 14.00           | 2.09                              | 0.33                          | -237          | 0.6                          |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                                               |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------|--|
| 096-P2P001                         |            | 1255-1250                                                                                                      |            | 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                      |            | 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" ID = 0.041 gal ft - 2" ID = 0.163 gal ft - 4" ID = 0.653 gal ft - 6" ID = 1.47 gal ft<br>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:                                                                                                      |            |                                                                                                                               |  |
| 3)                                 |            |                                                                                                                |            |                                                                                                                               |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: C026-R2M067

Project Name: LA & 3 64 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft): -

Date: 8/14/24

Depth to Water (ft): 14.84

One Well Volume (gal):

Product Thickness (ft): -

Flow Rate (mL/min) 100

Depth to Bottom (ft): -

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1310 |                         | 16.20      | 32.61     | 14.00           | 2.73                              | 0.92                          | -206          | 27.7                         |          |
| 1315 |                         | 16.83      | 30.77     | 14.00           | 2.77                              | 0.07                          | -291          | 22.4                         |          |
| 1320 |                         | 17.59      | 29.83     | 14.00           | 2.81                              | 0.00                          | -273          | 20.7                         |          |
| 1325 |                         | 18.01      | 29.56     | 14.00           | 2.84                              | 0.00                          | -288          | 18.1                         |          |
| 1330 |                         | 18.96      | 29.90     | 14.00           | 2.88                              | 0.06                          | -300          | 14.0                         |          |
| 1336 |                         | 19.41      | 30.48     | 14.00           | 2.87                              | 0.00                          | -308          | 12.0                         |          |
| 1340 |                         | 19.79      | 30.74     | 14.00           | 2.87                              | 0.00                          | -313          | 7.4                          |          |
| 1345 |                         | 20.21      | 31.03     | 14.00           | 2.86                              | 0.00                          | -316          | 4.6                          |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                        |            | Well Inspection                                                                                        |  |  |
|------------------------------------|------------|---------------------------------------|------------|--------------------------------------------------------------------------------------------------------|--|--|
| 026-R2M057                         |            | 1350                                  |            | 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                      |            | 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                       |            | Specific                              |            | Well is broken and is not able to be used                                                              |  |  |
| Duplicate                          |            | Conductance                           |            | Well is blocked and is not able to be used                                                             |  |  |
|                                    |            |                                       |            | Cap is present                                                                                         |  |  |
|                                    |            |                                       |            | Well permit is present                                                                                 |  |  |

Sampled By

Comments: Reduced flow rate to 100 mL/min

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: 057-02P002

Project Name: 04 03 04 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft): 1

Date: 8/6/24

Depth to Water (ft): 15.63

One Well Volume (gal):

Product Thickness (ft): 1

Flow Rate (mL/min) 00

Depth to Bottom (ft):

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1000 |                         | 15.84      | 26.35     | 11.23           | 0.94                              | 2.60                          | 192           | 6.1                          |          |
| 1005 |                         | DRY        |           |                 |                                   |                               |               |                              |          |
| 1010 |                         |            |           |                 |                                   |                               |               |                              |          |
| 1015 |                         |            |           |                 |                                   |                               |               |                              |          |
| 1020 |                         |            |           |                 |                                   |                               |               |                              |          |
| 1025 |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

|                                    |            |                                                                                                                               |                                     |                                                                                                                               |  |
|------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|--|
| Sample ID                          |            | Time Collected                                                                                                                |                                     | Well Inspection                                                                                                               |  |
| 057-P2P002                         |            |                                                                                                                               |                                     | 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                                                                                                           | <input checked="" type="checkbox"/> | 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                                                                |  |
| 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<br>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: <u>3</u>               |            | Comments: <u>1005 DRY</u>                                                                                                     |                                     |                                                                                                                               |  |

| Low Flow Sampling<br>Purge Log     |                         |                                               |            |                                                                                                         |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                               |               |                              |          |
|------------------------------------|-------------------------|-----------------------------------------------|------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|------------------------------|----------|
| Well Number: 058-P2000             |                         |                                               |            |                                                                                                         | Project Name: COA B3 B4 2020                                                                                                                        |                               |               |                              |          |
| Well Diameter (in): 2              |                         |                                               |            |                                                                                                         | Project Number: 2101026                                                                                                                             |                               |               |                              |          |
| Depth to Product (ft): -           |                         |                                               |            |                                                                                                         | Date: 8/15/20                                                                                                                                       |                               |               |                              |          |
| Depth to Water (ft): 13.3          |                         |                                               |            |                                                                                                         | One Well Volume (gal):                                                                                                                              |                               |               |                              |          |
| Product Thickness (ft): -          |                         |                                               |            |                                                                                                         | Flow Rate (mL/min): 60                                                                                                                              |                               |               |                              |          |
| Depth to Bottom (ft): -            |                         |                                               |            |                                                                                                         | 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 |
| 1025                               |                         | 13.69                                         | 28.46      | 13.20                                                                                                   | 1.83                                                                                                                                                | 0.19                          | -55           | 3.8                          |          |
| 1030                               |                         | 13.45                                         | 29.17      | 12.82                                                                                                   | 1.41                                                                                                                                                | 0.02                          | -71           | 2.5                          |          |
| 1035                               |                         | 13.75                                         | 29.51      | 11.66                                                                                                   | 1.07                                                                                                                                                | 0.00                          | -37           | 1.6                          |          |
| 1040                               |                         | 13.84                                         | 29.94      | 11.20                                                                                                   | 0.873                                                                                                                                               | 0.00                          | -27           | 1.3                          |          |
| 1045                               |                         | 13.89                                         | 30.36      | 11.12                                                                                                   | 0.862                                                                                                                                               | 0.00                          | -31           | 2.1                          |          |
| 1050                               |                         | 13.96                                         | 30.90      | 11.14                                                                                                   | 0.831                                                                                                                                               | 0.00                          | -40           | 2.4                          |          |
| 1055                               |                         | 14.03                                         | 31.26      | 11.26                                                                                                   | 0.828                                                                                                                                               | 0.00                          | -50           | 3.2                          |          |
| 1100                               |                         | 14.09                                         | 31.63      | 11.44                                                                                                   | 0.830                                                                                                                                               | 0.00                          | -58           | 4.4                          |          |
| 1105                               |                         | 14.14                                         | 31.86      | 11.61                                                                                                   | 0.831                                                                                                                                               | 0.00                          | -64           | 4.9                          |          |
| 1110                               |                         | 14.17                                         | 32.31      | 11.73                                                                                                   | 0.834                                                                                                                                               | 0.00                          | -69           | 4.3                          |          |
| SAMPLE RECORD AND WELL DETAILS     |                         |                                               |            |                                                                                                         |                                                                                                                                                     |                               |               |                              |          |
| Sample ID                          |                         | Time Collected                                |            | Well Inspection                                                                                         |                                                                                                                                                     |                               |               |                              |          |
| 058-P2000                          |                         | 8/15/20                                       |            | 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                                  |            | Poor: heavily cracked                                                                                   |                                                                                                                                                     |                               |               |                              |          |
| TPH-GRO                            |                         | and Cd                                        |            | 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" 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,              |            | 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                                                                                  |                                                                                                                                                     |                               |               |                              |          |
| Sampled By: 3                      |                         | Comments: Reduce flow rate to reduce spindles |            |                                                                                                         |                                                                                                                                                     |                               |               |                              |          |



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

## Low Flow Sampling Purge Log

|                            |                             |
|----------------------------|-----------------------------|
| Well Number: 1058-P2m001   | Project Name: CA-63 GW 2024 |
| Well Diameter (in): 2      | Project Number: 21010210    |
| Depth to Product (ft): -   | Date: 8/15/24               |
| Depth to Water (ft): 13.33 | One Well Volume (gal):      |
| Product Thickness (ft): -  | Flow Rate (mL/min) 100      |
| Depth to Bottom (ft): -    | Length of time Purged (min) |

### PURGING RECORD

[illegible]

## SAMPLE RECORD AND WELL DETAILS

|                                    |            |                                       |                        |                                                                                                        |  |
|------------------------------------|------------|---------------------------------------|------------------------|--------------------------------------------------------------------------------------------------------|--|
| Sample ID                          |            | Time Collected                        |                        | Well Inspection                                                                                        |  |
| C58-P2m 001                        |            | 1130                                  |                        | 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                          |                        | Poor: heavily cracked                                                                                  |  |
| TPH-GRO                            |            | and Cd                                |                        | Unsure: pad has been buried by site activities                                                         |  |
| TPH-DRO                            |            | BTEX and                              | X                      | Bolts in place                                                                                         |  |
| O&G                                |            | naphthalene                           |                        | 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" 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,      |                        | ft x gal ft = (gal)                                                                                    |  |
| PCB                                |            | TDS,                                  |                        | Well is structurally sound: not bent, broken, and no blockage identified                               |  |
| 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                                                                                         |  |
|                                    |            |                                       | Well permit is present |                                                                                                        |  |
| Comments:                          |            |                                       |                        |                                                                                                        |  |
| Sampled By<br>DS                   |            |                                       |                        |                                                                                                        |  |



| Low Flow Sampling<br>Purge Log                   |                               |                                                                                      |              |                                                                                                                                     |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                                        |                     |                                    |                             |
|--------------------------------------------------|-------------------------------|--------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------|------------------------------------|-----------------------------|
| Well Number: <u>C057-P2P002</u>                  |                               |                                                                                      |              |                                                                                                                                     | Project Name: <u>COA Q3 GW 2024</u>                                                                                                                 |                                        |                     |                                    |                             |
| Well Diameter (in): <u>2</u>                     |                               |                                                                                      |              |                                                                                                                                     | Project Number: <u>21010210</u>                                                                                                                     |                                        |                     |                                    |                             |
| Depth to Product (ft): <u>—</u>                  |                               |                                                                                      |              |                                                                                                                                     | Date: <u>8/19/24</u>                                                                                                                                |                                        |                     |                                    |                             |
| Depth to Water (ft): <u>15.54 (15.69 @ 1430)</u> |                               |                                                                                      |              |                                                                                                                                     | One Well Volume (gal):                                                                                                                              |                                        |                     |                                    |                             |
| Product Thickness (ft): <u>—</u>                 |                               |                                                                                      |              |                                                                                                                                     | Flow Rate (mL/min): <u>100</u>                                                                                                                      |                                        |                     |                                    |                             |
| Depth to Bottom (ft): <u>17.96</u>               |                               |                                                                                      |              |                                                                                                                                     | Length of time Purged (min):                                                                                                                        |                                        |                     |                                    |                             |
| PURGING RECORD                                   |                               |                                                                                      |              |                                                                                                                                     |                                                                                                                                                     |                                        |                     |                                    |                             |
| Time<br><i>Started at 12:00</i>                  | Volume<br>Purged<br>(gallons) | DTW<br>(feet)                                                                        | Temp<br>(°C) | pH<br>(s.u.)<br>± 0.1                                                                                                               | Specific<br>Conductance<br>(ms/cm)<br>± 3%                                                                                                          | Dissolved<br>Oxygen<br>(mg/L)<br>± 0.3 | ORP<br>(mV)<br>± 10 | Turbidity<br>(NTU)<br>± 10% or < 5 | Comments                    |
| 1210                                             |                               | 15.90                                                                                | 24.78        | 10.12                                                                                                                               | 1.52                                                                                                                                                | 0.87                                   | 97                  | 0.2                                |                             |
| 1215                                             |                               | 16.20                                                                                | 25.24        | 10.89                                                                                                                               | 1.29                                                                                                                                                | 0.69                                   | 79                  | 4.72                               |                             |
| 1220                                             |                               | 16.25                                                                                | 25.72        | 11.20                                                                                                                               | 1.14                                                                                                                                                | 0.88                                   | 67                  | 2.39                               |                             |
| 1225                                             |                               | 16.41                                                                                | 26.33        | 11.40                                                                                                                               | 1.08                                                                                                                                                | 1.08                                   | 51                  | 1.63                               | <i>— horizon turned off</i> |
| 1230                                             |                               | 16.55                                                                                | 26.75        | 11.41                                                                                                                               | 1.06                                                                                                                                                | 0.88                                   | 19                  | 1.27                               |                             |
| 1235                                             |                               | 16.83                                                                                | 27.14        | 11.40                                                                                                                               | 1.03                                                                                                                                                | 0.76                                   | -22                 | 0.80                               |                             |
| 1240                                             |                               | 17.18                                                                                | 27.37        | 11.39                                                                                                                               | 1.01                                                                                                                                                | 0.56                                   | -60                 | 0.40                               |                             |
| 1245                                             |                               | 17.57                                                                                | 27.49        | 11.33                                                                                                                               | 0.954                                                                                                                                               | 0.39                                   | -94                 | 0.35                               |                             |
| 1250                                             |                               | 17.89                                                                                | 27.57        | 11.36                                                                                                                               | 0.903                                                                                                                                               | 0.65                                   | -109                | 0.80                               |                             |
| <u>DRY</u>                                       |                               |                                                                                      |              |                                                                                                                                     |                                                                                                                                                     |                                        |                     |                                    |                             |
| SAMPLE RECORD AND WELL DETAILS                   |                               |                                                                                      |              |                                                                                                                                     |                                                                                                                                                     |                                        |                     |                                    |                             |
| Sample ID                                        |                               | Time Collected                                                                       |              | Well Inspection                                                                                                                     |                                                                                                                                                     |                                        |                     |                                    |                             |
| <u>C057-P2P002</u>                               |                               | <u>1430</u>                                                                          |              | Well has been found and is accessible without hazards. If no, explain in the comments section. <span style="float: right;">✓</span> |                                                                                                                                                     |                                        |                     |                                    |                             |
|                                                  |                               |                                                                                      |              | 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                                                                         |              | Poor: heavily cracked                                                                                                               |                                                                                                                                                     |                                        |                     |                                    |                             |
| TPH-GRO                                          |                               | and Cd                                                                               |              | Unsure: pad has been buried by site activities <span style="float: right;">X</span>                                                 |                                                                                                                                                     |                                        |                     |                                    |                             |
| TPH-DRO                                          |                               | BTEX and                                                                             | <u>X</u>     | Bolts in place                                                                                                                      |                                                                                                                                                     |                                        |                     |                                    |                             |
| O&G                                              |                               | naphthalene                                                                          |              | Bolts are missing <span style="float: right;">No lock</span>                                                                        |                                                                                                                                                     |                                        |                     |                                    |                             |
| Total Cyanide                                    |                               | VOC,                                                                                 |              | Well Casing Condition                                                                                                               |                                                                                                                                                     |                                        |                     |                                    |                             |
| TCL SVOCs                                        |                               | SVOC, TAL                                                                            |              | Casing is free from damage and visibly marked with the Well ID <span style="float: right;">no ID</span>                             |                                                                                                                                                     |                                        |                     |                                    |                             |
| 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 <span style="float: right;">✓</span>                       |                                                                                                                                                     |                                        |                     |                                    |                             |
| 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                                                                                          |                                                                                                                                                     |                                        |                     |                                    |                             |
|                                                  |                               |                                                                                      |              | Cap is present <span style="float: right;">✓</span>                                                                                 |                                                                                                                                                     |                                        |                     |                                    |                             |
|                                                  |                               |                                                                                      |              | Well permit is present                                                                                                              |                                                                                                                                                     |                                        |                     |                                    |                             |
| Sampled By: <u>LEP</u>                           |                               | Comments: <u>return later after recharged, make sure turb &lt; 5 before sampling</u> |              |                                                                                                                                     |                                                                                                                                                     |                                        |                     |                                    |                             |

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| Low Flow Sampling<br>Purge Log        |                               |                                       |                                     |                                                                                                                                    |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                                        |                     |                                    |                                    |
|---------------------------------------|-------------------------------|---------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------|------------------------------------|------------------------------------|
| Well Number: <u>C059-P2P002</u>       |                               |                                       |                                     |                                                                                                                                    | Project Name: <u>C04 Q3 GW 2024</u>                                                                                                                 |                                        |                     |                                    |                                    |
| Well Diameter (in): <u>2"</u>         |                               |                                       |                                     |                                                                                                                                    | Project Number: <u>21010210</u>                                                                                                                     |                                        |                     |                                    |                                    |
| Depth to Product (ft): <u>—</u>       |                               |                                       |                                     |                                                                                                                                    | Date: <u>08/19/24</u>                                                                                                                               |                                        |                     |                                    |                                    |
| Depth to Water (ft): <u>15.60</u>     |                               |                                       |                                     |                                                                                                                                    | One Well Volume (gal):                                                                                                                              |                                        |                     |                                    |                                    |
| Product Thickness (ft): <u>—</u>      |                               |                                       |                                     |                                                                                                                                    | Flow Rate (mL/min): <u>200 → 250</u>                                                                                                                |                                        |                     |                                    |                                    |
| Depth to Bottom (ft): <u>19.04</u>    |                               |                                       |                                     |                                                                                                                                    | Length of time Purged (min)                                                                                                                         |                                        |                     |                                    |                                    |
| <b>PURGING RECORD</b>                 |                               |                                       |                                     |                                                                                                                                    |                                                                                                                                                     |                                        |                     |                                    |                                    |
| Time                                  | Volume<br>Purged<br>(gallons) | DTW<br>(feet)                         | Temp<br>(°C)                        | pH<br>(s.u.)<br>± 0.1                                                                                                              | Specific<br>Conductance<br>(ms/cm)<br>± 3%                                                                                                          | Dissolved<br>Oxygen<br>(mg/L)<br>± 0.3 | ORP<br>(mV)<br>± 10 | Turbidity<br>(NTU)<br>± 10% or < 5 | Comments                           |
| <u>Start at 13:12</u>                 |                               |                                       |                                     |                                                                                                                                    |                                                                                                                                                     |                                        |                     |                                    |                                    |
| <u>13:15</u>                          |                               | <u>15.62</u>                          | <u>28.01</u>                        | <u>10.57</u>                                                                                                                       | <u>2.43</u>                                                                                                                                         | <u>1.40</u>                            | <u>51</u>           | <u>0.2</u>                         |                                    |
| <u>13:20</u>                          |                               | <u>15.61</u>                          | <u>27.89</u>                        | <u>10.75</u>                                                                                                                       | <u>1.95</u>                                                                                                                                         | <u>0.0</u>                             | <u>49</u>           | <u>1.99</u>                        |                                    |
| <u>13:25</u>                          |                               | <u>15.61</u>                          | <u>27.57</u>                        | <u>11.17</u>                                                                                                                       | <u>1.74</u>                                                                                                                                         | <u>0.05</u>                            | <u>49</u>           | <u>1.51</u>                        |                                    |
| <u>13:30</u>                          |                               | <u>15.61</u>                          | <u>27.50</u>                        | <u>11.36</u>                                                                                                                       | <u>1.71</u>                                                                                                                                         | <u>0.0</u>                             | <u>51</u>           | <u>0.98</u>                        |                                    |
| <u>13:35</u>                          |                               | <u>15.61</u>                          | <u>27.52</u>                        | <u>11.68</u>                                                                                                                       | <u>1.68</u>                                                                                                                                         | <u>0.0</u>                             | <u>44</u>           | <u>0.74</u>                        |                                    |
| <u>13:40</u>                          |                               | <u>15.61</u>                          | <u>27.69</u>                        | <u>12.07</u>                                                                                                                       | <u>1.66</u>                                                                                                                                         | <u>0.0</u>                             | <u>31</u>           | <u>0.76</u>                        | <u>-increase purge rate to 250</u> |
| <u>13:45</u>                          |                               | <u>15.61</u>                          | <u>27.78</u>                        | <u>12.46</u>                                                                                                                       | <u>1.65</u>                                                                                                                                         | <u>0.0</u>                             | <u>16</u>           | <u>1.08</u>                        |                                    |
| <u>13:50</u>                          |                               | <u>15.61</u>                          | <u>27.80</u>                        | <u>12.83</u>                                                                                                                       | <u>1.65</u>                                                                                                                                         | <u>0.0</u>                             | <u>2</u>            | <u>1.04</u>                        |                                    |
| <u>13:55</u>                          |                               | <u>15.61</u>                          | <u>27.87</u>                        | <u>13.05</u>                                                                                                                       | <u>1.65</u>                                                                                                                                         | <u>0.05</u>                            | <u>-11</u>          | <u>0.49</u>                        |                                    |
| <u>14:00</u>                          |                               | <u>15.61</u>                          | <u>27.94</u>                        | <u>13.17</u>                                                                                                                       | <u>1.68</u>                                                                                                                                         | <u>0.0</u>                             | <u>-19</u>          | <u>0.91</u>                        |                                    |
| <b>SAMPLE RECORD AND WELL DETAILS</b> |                               |                                       |                                     |                                                                                                                                    |                                                                                                                                                     |                                        |                     |                                    |                                    |
| Sample ID                             |                               | Time Collected                        |                                     | Well Inspection                                                                                                                    |                                                                                                                                                     |                                        |                     |                                    |                                    |
| <u>C059-P2P002</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                          |                                     | Poor: heavily cracked                                                                                                              |                                                                                                                                                     |                                        |                     |                                    |                                    |
| TPH-GRO                               |                               | and Cd                                |                                     | Unsure: pad has been buried by site activities <input checked="" type="checkbox"/>                                                 |                                                                                                                                                     |                                        |                     |                                    |                                    |
| TPH-DRO                               |                               | BTEX and                              | <input checked="" type="checkbox"/> | Bolts in place                                                                                                                     |                                                                                                                                                     |                                        |                     |                                    |                                    |
| O&G                                   |                               | naphthalene                           |                                     | Bolts are missing <u>no lock</u>                                                                                                   |                                                                                                                                                     |                                        |                     |                                    |                                    |
| Total Cyanide                         |                               | VOC,                                  |                                     | Well Casing Condition                                                                                                              |                                                                                                                                                     |                                        |                     |                                    |                                    |
| TCL SVOCs                             |                               | SVOC, TAL                             |                                     | Casing is free from damage and visibly marked with the Well ID <u>no ID on outside</u>                                             |                                                                                                                                                     |                                        |                     |                                    |                                    |
| 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 <input checked="" type="checkbox"/>                       |                                                                                                                                                     |                                        |                     |                                    |                                    |
| 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                                                                                         |                                                                                                                                                     |                                        |                     |                                    |                                    |
|                                       |                               |                                       |                                     | Cap is present <input checked="" type="checkbox"/>                                                                                 |                                                                                                                                                     |                                        |                     |                                    |                                    |
|                                       |                               |                                       |                                     | Well permit is present                                                                                                             |                                                                                                                                                     |                                        |                     |                                    |                                    |
| Sampled By <u>LEP</u>                 |                               | Comments:                             |                                     |                                                                                                                                    |                                                                                                                                                     |                                        |                     |                                    |                                    |





| Low Flow Sampling<br>Purge Log        |                         |                                                                                                                |            |                                                                                                                                                 |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                               |               |                              |          |
|---------------------------------------|-------------------------|----------------------------------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|------------------------------|----------|
| Well Number: <u>CO206R-MWS</u>        |                         |                                                                                                                |            |                                                                                                                                                 | Project Name: <u>COAGW Q3 2024</u>                                                                                                                  |                               |               |                              |          |
| Well Diameter (in): <u>2"</u>         |                         |                                                                                                                |            |                                                                                                                                                 | Project Number: <u>21010210</u>                                                                                                                     |                               |               |                              |          |
| Depth to Product (ft): <u>—</u>       |                         |                                                                                                                |            |                                                                                                                                                 | Date: <u>08/20/24</u>                                                                                                                               |                               |               |                              |          |
| Depth to Water (ft): <u>13.63'</u>    |                         |                                                                                                                |            |                                                                                                                                                 | One Well Volume (gal):                                                                                                                              |                               |               |                              |          |
| Product Thickness (ft): <u>—</u>      |                         |                                                                                                                |            |                                                                                                                                                 | Flow Rate (mL/min) <u>~130</u>                                                                                                                      |                               |               |                              |          |
| Depth to Bottom (ft): <u>22.45'</u>   |                         |                                                                                                                |            |                                                                                                                                                 | Length of time Purged (min)                                                                                                                         |                               |               |                              |          |
| <b>PURGING RECORD</b>                 |                         |                                                                                                                |            |                                                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |
| 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 |
| 10:05                                 |                         | 13.63                                                                                                          | 22.04      | 10.21                                                                                                                                           | 2.08                                                                                                                                                | 1.67                          | -80           | OR                           |          |
| 10:10                                 |                         | 13.63                                                                                                          | 22.20      | 10.66                                                                                                                                           | 2.06                                                                                                                                                | 0.34                          | -187          | OR                           |          |
| 10:15                                 |                         | 13.63                                                                                                          | 22.38      | 10.78                                                                                                                                           | 2.05                                                                                                                                                | 0.09                          | -211          | OR                           |          |
| 10:20                                 |                         | 13.63                                                                                                          | 22.52      | 10.81                                                                                                                                           | 2.05                                                                                                                                                | 0.03                          | -219          | 8.23                         |          |
| 10:25                                 |                         | 13.63                                                                                                          | 22.69      | 10.83                                                                                                                                           | 2.03                                                                                                                                                | 0.00                          | -225          | 5.12                         |          |
| 10:30                                 |                         | 13.63                                                                                                          | 22.85      | 10.82                                                                                                                                           | 2.02                                                                                                                                                | 0.00                          | -228          | 3.62                         | ✓        |
| 10:35                                 |                         | 13.63                                                                                                          | 23.04      | 10.83                                                                                                                                           | 2.01                                                                                                                                                | 0.00                          | -230          | 2.61                         | ✓        |
| 10:40                                 |                         | 13.63                                                                                                          | 23.20      | 10.83                                                                                                                                           | 2.01                                                                                                                                                | 0.00                          | -233          | 2.23                         |          |
|                                       |                         |                                                                                                                |            |                                                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |
|                                       |                         |                                                                                                                |            |                                                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |
| <b>SAMPLE RECORD AND WELL DETAILS</b> |                         |                                                                                                                |            |                                                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |
| Sample ID                             |                         | Time Collected                                                                                                 |            | Well Inspection                                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |
| <u>CO206R-MWS</u>                     |                         | <u>10:45</u>                                                                                                   |            | Well has been found and is accessible without hazards. If no, explain in the comments section. <span style="float: right;">✓</span>             |                                                                                                                                                     |                               |               |                              |          |
|                                       |                         |                                                                                                                |            | Well Pad Condition                                                                                                                              |                                                                                                                                                     |                               |               |                              |          |
| Sampling Parameters                   |                         |                                                                                                                |            | Good: no visible cracks and is sloping <span style="float: right;">✓</span>                                                                     |                                                                                                                                                     |                               |               |                              |          |
| Parameter                             | Collected?              | Parameter                                                                                                      | Collected? | Fair: some visible cracks and/or not sloping                                                                                                    |                                                                                                                                                     |                               |               |                              |          |
| TCL-VOCs                              |                         | Dissolved Zn                                                                                                   |            | Poor: heavily cracked                                                                                                                           |                                                                                                                                                     |                               |               |                              |          |
| TPH-GRO                               |                         | and Cd                                                                                                         |            | Unsure: pad has been buried by site activities                                                                                                  |                                                                                                                                                     |                               |               |                              |          |
| TPH-DRO                               |                         | BTEX and                                                                                                       | ✗          | Bolts in place <span style="float: right;">✓</span>                                                                                             |                                                                                                                                                     |                               |               |                              |          |
| O&G                                   |                         | naphthalene                                                                                                    |            | 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 <span style="float: right;">no ID outside</span>                                 |                                                                                                                                                     |                               |               |                              |          |
| 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<br>_____ ft x _____ gal ft = _____ (gal) |                                                                                                                                                     |                               |               |                              |          |
| Hexavalent Chromium                   |                         |                                                                                                                |            | Well is structurally sound: not bent, broken, and no blockage identified <span style="float: right;">✓</span>                                   |                                                                                                                                                     |                               |               |                              |          |
| 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 <span style="float: right;">✓</span>                                                                                             |                                                                                                                                                     |                               |               |                              |          |
|                                       |                         |                                                                                                                |            | Well permit is present                                                                                                                          |                                                                                                                                                     |                               |               |                              |          |
| Sampled By <u>LEP</u>                 |                         | Comments:                                                                                                      |            |                                                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |

| Low Flow Sampling<br>Purge Log        |                         |                                                                                                                                                                                                                                             |            |                                                                                                                                     |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                               |                   |                              |                 |
|---------------------------------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------|------------------------------|-----------------|
| Well Number: <u>CO25-P2M008</u>       |                         |                                                                                                                                                                                                                                             |            |                                                                                                                                     | Project Name: <u>CoAGW Q3 2024</u>                                                                                                                  |                               |                   |                              |                 |
| Well Diameter (in): <u>2"</u>         |                         |                                                                                                                                                                                                                                             |            |                                                                                                                                     | Project Number: <u>21010210</u>                                                                                                                     |                               |                   |                              |                 |
| Depth to Product (ft): <u>—</u>       |                         |                                                                                                                                                                                                                                             |            |                                                                                                                                     | Date: <u>08/20/24</u>                                                                                                                               |                               |                   |                              |                 |
| Depth to Water (ft): <u>15.03'</u>    |                         |                                                                                                                                                                                                                                             |            |                                                                                                                                     | One Well Volume (gal):                                                                                                                              |                               |                   |                              |                 |
| Product Thickness (ft): <u>—</u>      |                         |                                                                                                                                                                                                                                             |            |                                                                                                                                     | Flow Rate (mL/min) <u>100</u>                                                                                                                       |                               |                   |                              |                 |
| Depth to Bottom (ft): <u>23.54'</u>   |                         |                                                                                                                                                                                                                                             |            |                                                                                                                                     | Length of time Purged (min)                                                                                                                         |                               |                   |                              |                 |
| <b>PURGING RECORD</b>                 |                         |                                                                                                                                                                                                                                             |            |                                                                                                                                     |                                                                                                                                                     |                               |                   |                              |                 |
| 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        |
| 11:12                                 |                         | 15.04                                                                                                                                                                                                                                       | 24.43      | 9.88                                                                                                                                | 3.62                                                                                                                                                | 1.00                          | -170              | 25.3                         | very murky gray |
| 11:17                                 |                         | 15.04                                                                                                                                                                                                                                       | 24.83      | 10.02                                                                                                                               | 2.80 <sup>x</sup>                                                                                                                                   | 0.04 <sup>x</sup>             | -237 <sup>x</sup> | 12.9 <sup>x</sup>            |                 |
| 11:22                                 |                         | 15.04                                                                                                                                                                                                                                       | 24.28      | 10.24 <sup>x</sup>                                                                                                                  | 2.50 <sup>x</sup>                                                                                                                                   | 0.0 <sup>x</sup>              | -261 <sup>x</sup> | 02 <sup>x</sup>              |                 |
| 11:27                                 |                         | 15.04                                                                                                                                                                                                                                       | 24.27      | 10.38 <sup>x</sup>                                                                                                                  | 2.38 <sup>x</sup>                                                                                                                                   | 0.0 <sup>x</sup>              | -276 <sup>x</sup> | 02 <sup>x</sup>              |                 |
| 11:32                                 |                         | 15.04                                                                                                                                                                                                                                       | 24.25      | 10.58 <sup>x</sup>                                                                                                                  | 2.32 <sup>x</sup>                                                                                                                                   | 0.0 <sup>x</sup>              | -282 <sup>x</sup> | 6.65 <sup>x</sup>            |                 |
| 11:37                                 |                         | 15.04                                                                                                                                                                                                                                       | 24.22      | 10.52 <sup>x</sup>                                                                                                                  | 2.27 <sup>x</sup>                                                                                                                                   | 0.0 <sup>x</sup>              | -288 <sup>x</sup> | 3.54 <sup>x</sup>            | ✓               |
| 11:42                                 |                         | 15.04                                                                                                                                                                                                                                       | 24.26      | 10.53 <sup>x</sup>                                                                                                                  | 2.25 <sup>x</sup>                                                                                                                                   | 0.0 <sup>x</sup>              | -290 <sup>x</sup> | 3.46 <sup>x</sup>            | ✓               |
| 11:47                                 |                         | 15.04                                                                                                                                                                                                                                       | 24.36      | 10.55 <sup>x</sup>                                                                                                                  | 2.23 <sup>x</sup>                                                                                                                                   | 0.0 <sup>x</sup>              | -295 <sup>x</sup> | 1.45 <sup>x</sup>            |                 |
| <b>SAMPLE RECORD AND WELL DETAILS</b> |                         |                                                                                                                                                                                                                                             |            |                                                                                                                                     |                                                                                                                                                     |                               |                   |                              |                 |
| Sample ID                             |                         | Time Collected                                                                                                                                                                                                                              |            | Well Inspection                                                                                                                     |                                                                                                                                                     |                               |                   |                              |                 |
| <u>CO25-P2M008</u>                    |                         | <u>11:50</u>                                                                                                                                                                                                                                |            | Well has been found and is accessible without hazards. If no, explain in the comments section. <span style="float: right;">✓</span> |                                                                                                                                                     |                               |                   |                              |                 |
|                                       |                         |                                                                                                                                                                                                                                             |            | 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                                                                                                                                                                                                                                |            | Poor: heavily cracked                                                                                                               |                                                                                                                                                     |                               |                   |                              |                 |
| TPH-GRO                               |                         | and Cd                                                                                                                                                                                                                                      |            | Unsure: pad has been buried by site activities <span style="float: right;">✓</span>                                                 |                                                                                                                                                     |                               |                   |                              |                 |
| TPH-DRO                               |                         | BTEX and naphthalene                                                                                                                                                                                                                        | <u>X</u>   | Bolts in place                                                                                                                      |                                                                                                                                                     |                               |                   |                              |                 |
| O&G                                   |                         |                                                                                                                                                                                                                                             |            | Bolts are missing <span style="float: right;">no casing</span>                                                                      |                                                                                                                                                     |                               |                   |                              |                 |
| Total Cyanide                         |                         | VOC,                                                                                                                                                                                                                                        |            | Well Casing Condition                                                                                                               |                                                                                                                                                     |                               |                   |                              |                 |
| TCL SVOCs                             |                         | SVOC, TAL                                                                                                                                                                                                                                   |            | Casing is free from damage and visibly marked with the Well ID <span style="float: right;">no casing, labelled PVC</span>           |                                                                                                                                                     |                               |                   |                              |                 |
| TAL Metals and Mercury (total)        |                         | Metals and mercury, Sulfate, Nitrate,                                                                                                                                                                                                       |            | Well Condition                                                                                                                      |                                                                                                                                                     |                               |                   |                              |                 |
| TAL Metals and Mercury (dissolved)    |                         | Ammonia, COD, Alkalinity, Chloride, Turbidity, 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                                      |                                                                                                                                                     |                               |                   |                              |                 |
| Hexavalent Chromium                   |                         |                                                                                                                                                                                                                                             |            | Well is structurally sound: not bent, broken, and no blockage identified <span style="float: right;">✓</span>                       |                                                                                                                                                     |                               |                   |                              |                 |
| 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 <span style="float: right;">✓</span>                                                                                 |                                                                                                                                                     |                               |                   |                              |                 |
|                                       |                         |                                                                                                                                                                                                                                             |            | Well permit is present <span style="float: right;">no</span>                                                                        |                                                                                                                                                     |                               |                   |                              |                 |
| Sampled By <u>CEP</u>                 |                         | Comments: <u>- odor noted on tubing while gauging</u><br><u>- area surrounded by poison ivy</u><br><u>- end of tubing had some dark black heavy material on it, some observed on end of water probe, cut a few inches off end to remove</u> |            |                                                                                                                                     |                                                                                                                                                     |                               |                   |                              |                 |

| Low Flow Sampling<br>Purge Log      |                         |                                                                                                                |            |                                                                                                                               |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                               |               |                              |          |
|-------------------------------------|-------------------------|----------------------------------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|------------------------------|----------|
| Well Number: <u>C023-P2M008</u>     |                         |                                                                                                                |            |                                                                                                                               | Project Name: <u>COA GW Q3 2024</u>                                                                                                                 |                               |               |                              |          |
| Well Diameter (in): <u>2"</u>       |                         |                                                                                                                |            |                                                                                                                               | Project Number: <u>21010210</u>                                                                                                                     |                               |               |                              |          |
| Depth to Product (ft): <u>—</u>     |                         |                                                                                                                |            |                                                                                                                               | Date: <u>08/20/24</u>                                                                                                                               |                               |               |                              |          |
| Depth to Water (ft): <u>14.65'</u>  |                         |                                                                                                                |            |                                                                                                                               | One Well Volume (gal):                                                                                                                              |                               |               |                              |          |
| Product Thickness (ft): <u>—</u>    |                         |                                                                                                                |            |                                                                                                                               | Flow Rate (mL/min) <u>100</u>                                                                                                                       |                               |               |                              |          |
| Depth to Bottom (ft): <u>22.18'</u> |                         |                                                                                                                |            |                                                                                                                               | 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 |
| 12:23                               |                         | 14.65                                                                                                          | 25.51      | 10.37                                                                                                                         | 4.88                                                                                                                                                | 1.25                          | -233          | OR                           |          |
| 12:28                               |                         | 14.65                                                                                                          | 25.49      | 10.51                                                                                                                         | 3.68                                                                                                                                                | 0.0                           | -284          | 6.02                         |          |
| 12:33                               |                         | 14.65                                                                                                          | 25.39      | 10.52                                                                                                                         | 2.77                                                                                                                                                | 0.0                           | -301          | 4.68                         |          |
| 12:38                               |                         | 14.65                                                                                                          | 25.33      | 10.48                                                                                                                         | 2.13                                                                                                                                                | 0.0                           | -310          | 3.55                         |          |
| 12:43                               |                         | 14.65                                                                                                          | 25.39      | 10.44                                                                                                                         | 1.71                                                                                                                                                | 0.0                           | -317          | 3.38                         |          |
| 12:48                               |                         | 14.65                                                                                                          | 25.47      | 10.44                                                                                                                         | 1.55                                                                                                                                                | 0.0                           | -324          | 1.97                         |          |
| 12:53                               |                         | 14.65                                                                                                          | 25.57      | 10.44                                                                                                                         | 1.47                                                                                                                                                | 0.0                           | -329          | 1.58                         | ✓        |
| 12:58                               |                         | 14.65                                                                                                          | 25.75      | 10.43                                                                                                                         | 1.43                                                                                                                                                | 0.0                           | -335          | 1.21                         | ✓        |
| 13:03                               |                         | 14.65                                                                                                          | 25.89      | 10.45                                                                                                                         | 1.40                                                                                                                                                | 0.0                           | -338          | 1.15                         |          |
|                                     |                         |                                                                                                                |            |                                                                                                                               |                                                                                                                                                     |                               |               |                              |          |
|                                     |                         |                                                                                                                |            |                                                                                                                               |                                                                                                                                                     |                               |               |                              |          |
| SAMPLE RECORD AND WELL DETAILS      |                         |                                                                                                                |            |                                                                                                                               |                                                                                                                                                     |                               |               |                              |          |
| Sample ID                           |                         | Time Collected                                                                                                 |            | Well Inspection                                                                                                               |                                                                                                                                                     |                               |               |                              |          |
| C023-P2M008                         |                         | 13:05                                                                                                          |            | 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                                                                                                   |            | Poor: heavily cracked                                                                                                         |                                                                                                                                                     |                               |               |                              |          |
| TPH-GRO                             |                         | and Cd                                                                                                         |            | Unsure: pad has been buried by site activities                                                                                |                                                                                                                                                     |                               |               |                              |          |
| TPH-DRO                             |                         | BTEX and                                                                                                       | X          | Bolts in place                                                                                                                |                                                                                                                                                     |                               |               |                              |          |
| O&G                                 |                         | naphthalene                                                                                                    |            | Bolts are missing ✓ no leaks                                                                                                  |                                                                                                                                                     |                               |               |                              |          |
| Total Cyanide                       |                         | VOC,                                                                                                           |            | Well Casing Condition                                                                                                         |                                                                                                                                                     |                               |               |                              |          |
| TCL SVOCs                           |                         | SVOC, TAL                                                                                                      |            | Casing is free from damage and visibly marked with the Well ID no ID on outside                                               |                                                                                                                                                     |                               |               |                              |          |
| 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<br>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 <u>CEP</u>               |                         | Comments: <u>- well found w/ outer casing open and cap off</u>                                                 |            |                                                                                                                               |                                                                                                                                                     |                               |               |                              |          |

| Low Flow Sampling<br>Purge Log      |                         |                                       |            |                                                                                                                                     |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                               |               |                              |          |  |
|-------------------------------------|-------------------------|---------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|------------------------------|----------|--|
| Well Number: <u>C024-PZM007</u>     |                         |                                       |            |                                                                                                                                     | Project Name: <u>COA GW Q3 2024</u>                                                                                                                 |                               |               |                              |          |  |
| Well Diameter (in): <u>2"</u>       |                         |                                       |            |                                                                                                                                     | Project Number: <u>21070210</u>                                                                                                                     |                               |               |                              |          |  |
| Depth to Product (ft): <u>—</u>     |                         |                                       |            |                                                                                                                                     | Date: <u>08/20/24</u>                                                                                                                               |                               |               |                              |          |  |
| Depth to Water (ft): <u>14.36'</u>  |                         |                                       |            |                                                                                                                                     | One Well Volume (gal): <u>—</u>                                                                                                                     |                               |               |                              |          |  |
| Product Thickness (ft): <u>—</u>    |                         |                                       |            |                                                                                                                                     | Flow Rate (mL/min): <u>100</u>                                                                                                                      |                               |               |                              |          |  |
| Depth to Bottom (ft): <u>22.17'</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 |  |
| 13:25                               |                         | 14.54                                 | 26.46      | 9.88                                                                                                                                | 0.828                                                                                                                                               | 1.20                          | -68           | 3.30                         |          |  |
| 13:30                               |                         | 14.60                                 | 26.57      | 9.85                                                                                                                                | 0.820                                                                                                                                               | 0.17                          | -83           | 2.91                         |          |  |
| 13:35                               |                         | 14.64                                 | 26.55      | 9.73                                                                                                                                | 0.866                                                                                                                                               | 0.06                          | -101          | 4.23                         |          |  |
| 13:40                               |                         | 14.65                                 | 26.56      | 9.60                                                                                                                                | 0.945                                                                                                                                               | 0.01                          | -139          | 3.24                         |          |  |
| 13:45                               |                         | 14.66                                 | 26.66      | 9.50                                                                                                                                | 1.05                                                                                                                                                | 0.0                           | -158          | 2.23                         |          |  |
| 13:50                               |                         | 14.67                                 | 26.84      | 9.46                                                                                                                                | 1.10                                                                                                                                                | 0.0                           | -170          | 1.26                         |          |  |
| 13:55                               |                         | 14.68                                 | 27.12      | 9.43                                                                                                                                | 1.14                                                                                                                                                | 0.0                           | -181          | 1.08                         | ✓        |  |
| 14:00                               |                         | 14.68                                 | 27.42      | 9.41                                                                                                                                | 1.17                                                                                                                                                | 0.0                           | -188          | 0.67                         | ✓        |  |
| 14:05                               |                         | 14.68                                 | 27.67      | 9.41                                                                                                                                | 1.20                                                                                                                                                | 0.0                           | -193          | 0.71                         |          |  |
|                                     |                         |                                       |            |                                                                                                                                     |                                                                                                                                                     |                               |               |                              |          |  |
|                                     |                         |                                       |            |                                                                                                                                     |                                                                                                                                                     |                               |               |                              |          |  |
| SAMPLE RECORD AND WELL DETAILS      |                         |                                       |            |                                                                                                                                     |                                                                                                                                                     |                               |               |                              |          |  |
| Sample ID                           |                         | Time Collected                        |            | Well Inspection                                                                                                                     |                                                                                                                                                     |                               |               |                              |          |  |
| <u>C024-PZM007</u>                  |                         | <u>14:10</u>                          |            | Well has been found and is accessible without hazards. If no, explain in the comments section. <span style="float: right;">✓</span> |                                                                                                                                                     |                               |               |                              |          |  |
|                                     |                         |                                       |            | Well Pad Condition                                                                                                                  |                                                                                                                                                     |                               |               |                              |          |  |
| Sampling Parameters                 |                         |                                       |            | Good: no visible cracks and is sloping <span style="float: right;">✓</span>                                                         |                                                                                                                                                     |                               |               |                              |          |  |
| Parameter                           | Collected?              | Parameter                             | Collected? | Fair: some visible cracks and/or not sloping                                                                                        |                                                                                                                                                     |                               |               |                              |          |  |
| TCL-VOCs                            |                         | Dissolved Zn                          |            | Poor: heavily cracked                                                                                                               |                                                                                                                                                     |                               |               |                              |          |  |
| TPH-GRO                             |                         | and Cd                                |            | Unsure: pad has been buried by site activities                                                                                      |                                                                                                                                                     |                               |               |                              |          |  |
| TPH-DRO                             |                         | BTEX and                              | ✗          | Bolts in place                                                                                                                      |                                                                                                                                                     |                               |               |                              |          |  |
| O&G                                 |                         | naphthalene                           |            | Bolts are missing <span style="float: right;">no</span>                                                                             |                                                                                                                                                     |                               |               |                              |          |  |
| Total Cyanide                       |                         | VOC,                                  |            | Well Casing Condition                                                                                                               |                                                                                                                                                     |                               |               |                              |          |  |
| TCL SVOCs                           |                         | SVOC, TAL                             |            | Casing is free from damage and visibly marked with the Well ID <span style="float: right;">✓</span>                                 |                                                                                                                                                     |                               |               |                              |          |  |
| 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,                  |            | _____ ft x _____ gal/ft = _____ (gal)                                                                                               |                                                                                                                                                     |                               |               |                              |          |  |
| PCB                                 |                         | TDS,                                  |            | Well is structurally sound: not bent, broken, and no blockage identified <span style="float: right;">✓</span>                       |                                                                                                                                                     |                               |               |                              |          |  |
| 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 <span style="float: right;">✓</span>                                                                                 |                                                                                                                                                     |                               |               |                              |          |  |
|                                     |                         |                                       |            | Well permit is present                                                                                                              |                                                                                                                                                     |                               |               |                              |          |  |
| Sampled By <u>LEP</u>               |                         | Comments:                             |            |                                                                                                                                     |                                                                                                                                                     |                               |               |                              |          |  |



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: GD01-MWT  
Well Diameter (in): 2  
Depth to Product (ft):  
Depth to Water (ft): 35.10  
Product Thickness (ft):  
Depth to Bottom (ft):

Project Name: COA GW 2024  
Project Number: 21010210  
Date: 10/17/24  
One Well Volume (gal):  
Flow Rate (mL/min) 500  
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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1010 |                         |            | 17.50     | 8.05            | 10.5                              | 1.58                          | 34            | OK                           |          |
| 1015 |                         | 35.15      | 17.57     | 8.52            | 8.09                              | 1.90                          | 3             | 608                          |          |
| 1020 |                         |            | 17.39     | 8.22            | 2.76                              | 3.96                          | 32            | 250                          |          |
| 1025 |                         |            | 17.33     | 8.07            | 2.38                              | 3.53                          | 44            | 246                          |          |
| 1030 |                         |            | 18.42     | 7.74            | 2.97                              | 2.39                          | 38            | 259                          |          |
| 1035 |                         |            | 18.98     | 8.37            | 10.3                              | 0.82                          | 6             | 244                          | 7        |
| 1040 |                         |            | 18.93     | 8.40            | 10.6                              | 0.66                          | 0             | 252                          |          |
| 1045 |                         |            | 18.91     | 8.43            | 10.9                              | 0.41                          | -3            | 241                          |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                                 |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------|--|
|                                    |            | 1050                                                                                                           |            | 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                          |            | 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 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:                                                                                                      |            |                                                                                                                 |  |



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: GD 02-AWT  
Well Diameter (in):  
Depth to Product (ft):  
Depth to Water (ft): 19.93  
Product Thickness (ft):  
Depth to Bottom (ft):

Project Name: COA GW 2024  
Project Number: 21010210  
Date: 10/17/24  
One Well Volume (gal):  
Flow Rate (mL/min) 300  
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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1105 |                         |            | 19.56     | 7.94            | 0.510                             | 0.30                          | 43            | 16.1                         |          |
| 1118 |                         | 20.07      | 19.72     | 7.34            | 0.389                             | 0.00                          | -1            | 17.4                         |          |
| 1115 |                         |            | 19.93     | 7.26            | 0.331                             | 0.00                          | -21           | 17.9                         |          |
| 1120 |                         |            | 19.94     | 7.21            | 0.302                             | 0.00                          | -23           | 9.3                          |          |
| 1125 |                         | 20.10      | 19.96     | 7.20            | 0.301                             | 0.00                          | -22           | 9.6                          |          |
| 1130 |                         |            | 20.01     | 7.19            | 0.300                             | 0.00                          | -21           | 10.1                         |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID |  | Time Collected |  | Well Inspection                                                                                                 |  |
|-----------|--|----------------|--|-----------------------------------------------------------------------------------------------------------------|--|
|           |  | 1135           |  | 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



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: 6D-02

Project Name: COA GW 2024

Well Diameter (in): 1

Project Number: 21010210

Depth to Product (ft):

Date: 12/16/24

Depth to Water (ft): 20.49

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) 200

Depth to Bottom (ft): 49.73

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 |
|-----------------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1305            |                         | 20.57      | 16.67     | 8.03            | 6.58                              | 0.0                           | -349          | 0.0                          |          |
| 1310            |                         | 20.57      | 16.66     | 8.03            | 6.84                              | 0.0                           | -354          | 0.0                          |          |
| 1315            |                         | 20.57      | 16.61     | 8.03            | 6.95                              | 0.0                           | -358          | 0.0                          |          |
| 1320            |                         | 20.57      | 16.42     | 8.04            | 7.10                              | 0.0                           | -362          | 0.0                          |          |
| <del>1325</del> |                         |            |           |                 |                                   |                               |               |                              |          |
|                 |                         |            |           |                 |                                   |                               |               |                              |          |
|                 |                         |            |           |                 |                                   |                               |               |                              |          |
|                 |                         |            |           |                 |                                   |                               |               |                              |          |
|                 |                         |            |           |                 |                                   |                               |               |                              |          |
|                 |                         |            |           |                 |                                   |                               |               |                              |          |
|                 |                         |            |           |                 |                                   |                               |               |                              |          |
|                 |                         |            |           |                 |                                   |                               |               |                              |          |
|                 |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID |  | Time Collected |  | Well Inspection                                                                                                 |  |
|-----------|--|----------------|--|-----------------------------------------------------------------------------------------------------------------|--|
| 6D-02     |  | 1330           |  | 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

AZT





**ARM Group  
Enterprises LLC**  
Engineers and Scientists

## Low Flow Sampling Purge Log

|                                     |                                  |
|-------------------------------------|----------------------------------|
| Well Number: <u>CO41-PZM001</u>     | Project Name: <u>COA GW 2024</u> |
| Well Diameter (in): <u>2</u>        | Project Number: <u>21010210</u>  |
| Depth to Product (ft): <u>17.04</u> | Date: <u>12/16/24</u>            |
| Depth to Water (ft): <u>17.04</u>   | One Well Volume (gal):           |
| Product Thickness (ft):             | Flow Rate (mL/min)               |
| Depth to Bottom (ft): <u>55.55</u>  | 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 |
|-------------|-------------------------|--------------|--------------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| <u>1430</u> |                         | <u>17.07</u> | <u>12.14</u> | <u>11.95</u>    | <u>0.897</u>                      | <u>0.0</u>                    | <u>-411</u>   | <u>0.0</u>                   |          |
| <u>1435</u> |                         |              |              |                 |                                   |                               |               |                              |          |
| <u>1440</u> |                         | <u>17.07</u> | <u>12.07</u> | <u>11.96</u>    | <u>0.865</u>                      | <u>0.00</u>                   | <u>-388</u>   | <u>0.00</u>                  |          |
| <u>1445</u> |                         | <u>17.07</u> | <u>12.05</u> | <u>12.00</u>    | <u>0.877</u>                      | <u>0.00</u>                   | <u>-406</u>   | <u>0.00</u>                  |          |
| <u>1450</u> |                         | <u>17.07</u> | <u>12.08</u> | <u>12.02</u>    | <u>0.898</u>                      | <u>0.00</u>                   | <u>-416</u>   | <u>0.00</u>                  |          |
| <u>1455</u> |                         | <u>17.07</u> | <u>12.03</u> | <u>11.93</u>    | <u>0.911</u>                      | <u>0.00</u>                   | <u>-421</u>   | <u>0.00</u>                  |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |

### SAMPLE RECORD AND WELL DETAILS

| Sample ID                                                                                                |            | Time Collected                        |            | Well Inspection                                                                                                 |  |
|----------------------------------------------------------------------------------------------------------|------------|---------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------|--|
| <u>CO41-PZM001</u>                                                                                       |            | <u>1500</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                                                                                                  |  |
| 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                                                                       |  |
|                                                                                                          |            |                                       |            | Well is blocked and is not able to be used                                                                      |  |
|                                                                                                          |            |                                       |            | Cap is present                                                                                                  |  |
|                                                                                                          |            |                                       |            | Well permit is present                                                                                          |  |
| Comments:<br>Sampled By <u>AZT</u><br><u>PH &gt; 10</u><br><u>Purge paused after tubing disconnected</u> |            |                                       |            |                                                                                                                 |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                    |                                  |
|------------------------------------|----------------------------------|
| Well Number: <u>CO190-mws</u>      | Project Name: <u>COA GW 2024</u> |
| Well Diameter (in): <u>2</u>       | Project Number: <u>21010210</u>  |
| Depth to Product (ft):             | Date: <u>12/17/24</u>            |
| Depth to Water (ft): <u>14.74</u>  | One Well Volume (gal):           |
| Product Thickness (ft):            | Flow Rate (mL/min) <u>24</u>     |
| Depth to Bottom (ft): <u>27.79</u> | 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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 925  |                         | 14.76      | 18.79     | 7.07            | 2.75                              | 0.0                           | -164          | 698                          |          |
| 930  |                         | 14.45      | 18.65     | 7.11            | 2.74                              | 0.00                          | -167          | 59.0                         |          |
| 935  |                         | 15.39      | 18.54     | 7.24            | 2.10                              | 0.00                          | -185          | 85.7                         |          |
| 940  |                         | 15.35      | 18.56     | 7.27            | 1.99                              | 0.0                           | -188          | 01                           |          |
| 945  |                         | 15.35      | 18.63     | 7.29            | 1.89                              | 0.0                           | -190          | 113                          |          |
| 950  |                         | 15.38      | 18.66     | 7.30            | 1.75                              | 0.0                           | -192          | 126                          |          |
| 955  |                         | 15.38      | 18.67     | 7.31            | 1.73                              | 0.0                           | -193          | 129                          |          |
| 1000 |                         | 15.35      | 18.70     | 7.32            | 1.65                              | 0.00                          | -193          | 130                          |          |
| 1005 |                         | 15.35      | 18.70     | 7.32            | 1.57                              | 0.00                          | -192          | 135                          |          |
| 1010 |                         | 15.35      | 18.69     | 7.29            | 1.64                              | 0.00                          | -192          | 131                          |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          | Time Collected | Well Inspection                                                                                                 |
|------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------|
| <u>CO190-mws</u>                   | <u>1035</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                                                                                          |

Sampled By

RES

Comments:

o/w probe cleaned of product/solution that prevented/potentially, initial readings of DTW

Well Number: C619C-MWS

Project Name: COA GW 2024

Well Diameter (in): ?

Project Number: 21010210

Depth to Product (ft):

Date:

Depth to Water (ft):

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min)

Depth to Bottom (ft):

Length of time Purged (min)

[illegible]

|                                    |            |                                                     |            |                                                                                                                                                          |  |
|------------------------------------|------------|-----------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Sample ID                          |            | Time Collected                                      |            | Well Inspection                                                                                                                                          |  |
| C0190-MWS                          |            | 1035                                                |            | 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                                        |            | Poor: heavily cracked                                                                                                                                    |  |
| TPH-GRO                            |            | and Cd                                              |            | Unsure: pad has been buried by site activities                                                                                                           |  |
| TPH-DRO                            |            | BTEX and                                            |            | Bolts in place                                                                                                                                           |  |
| O&G                                |            | naphthalene                                         |            | 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, Chloride, Turbidity, TDS, |            | 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<br>_____ ft x _____ gal/ft = _____ (gal) |  |
| Hexavalent Chromium                |            | Specific                                            |            | Well is structurally sound: not bent, broken, and no blockage identified                                                                                 |  |
| PCB                                |            | Conductance                                         |            | 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

AZ

| Low Flow Sampling<br>Purge Log     |                         |                                       |            |                                                                                                                 |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                               |               |                              |          |
|------------------------------------|-------------------------|---------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|------------------------------|----------|
| Well Number: <u>CO41-PZM036</u>    |                         |                                       |            |                                                                                                                 | Project Name: <u>COA GW 2024</u>                                                                                                                    |                               |               |                              |          |
| Well Diameter (in): <u>2</u>       |                         |                                       |            |                                                                                                                 | Project Number: <u>21010210</u>                                                                                                                     |                               |               |                              |          |
| Depth to Product (ft):             |                         |                                       |            |                                                                                                                 | Date: <u>12/17/24</u>                                                                                                                               |                               |               |                              |          |
| Depth to Water (ft): <u>16.54</u>  |                         |                                       |            |                                                                                                                 | One Well Volume (gal):                                                                                                                              |                               |               |                              |          |
| Product Thickness (ft):            |                         |                                       |            |                                                                                                                 | Flow Rate (mL/min) <u>200</u>                                                                                                                       |                               |               |                              |          |
| Depth to Bottom (ft): <u>19.04</u> |                         |                                       |            |                                                                                                                 | 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 |
| 1055                               |                         | 17.81                                 | 14.7       | 8.14                                                                                                            | 0.630                                                                                                                                               | 0.0                           | -328          | 9.7                          |          |
| 1100                               |                         | 16.68                                 | 14.36      | 8.09                                                                                                            | 0.640                                                                                                                                               | 0.0                           | -306          | 7.8                          |          |
| 1105                               |                         | 15.79                                 | 14.24      | 8.11                                                                                                            | 0.630                                                                                                                                               | 0.0                           | -319          | 5.5                          |          |
| <del>1110</del> 1110               |                         | 15.79                                 | 14.27      | 8.16                                                                                                            | 0.605                                                                                                                                               | 0.0                           | -328          | 8.2                          |          |
| 1115                               |                         | 15.79                                 | 14.50      | 8.22                                                                                                            | 0.569                                                                                                                                               | 0.0                           | -318          | 16.3                         |          |
| 1120                               |                         | 15.79                                 | 13.85      | 8.28                                                                                                            | 0.580                                                                                                                                               | 0.0                           | -329          | 9.7                          |          |
| 1125                               |                         | 15.79                                 | 13.83      | 8.34                                                                                                            | 0.542                                                                                                                                               | 0.0                           | -332          | 10.4                         |          |
| 1130                               |                         | 15.79                                 | 13.79      | 8.37                                                                                                            | 0.533                                                                                                                                               | 0.0                           | -333          | 7.4                          |          |
|                                    |                         |                                       |            |                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                       |            |                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                       |            |                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |
| SAMPLE RECORD AND WELL DETAILS     |                         |                                       |            |                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |
| Sample ID                          |                         | Time Collected                        |            | Well Inspection                                                                                                 |                                                                                                                                                     |                               |               |                              |          |
| <u>CO41-PZM036</u>                 |                         | <u>1138</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                                                                                                  |                                                                                                                                                     |                               |               |                              |          |
| 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                                                                      |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                       |            | Cap is present                                                                                                  |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                       |            | Well permit is present                                                                                          |                                                                                                                                                     |                               |               |                              |          |
| Sampled By <u>AZJ</u>              |                         |                                       |            |                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |

| Low Flow Sampling<br>Purge Log     |                         |                                       |            |                                                                                                         |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                               |               |                              |          |
|------------------------------------|-------------------------|---------------------------------------|------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|------------------------------|----------|
| Well Number: <u>C027-P2M046</u>    |                         |                                       |            |                                                                                                         | Project Name: <u>COA GW 2024</u>                                                                                                                    |                               |               |                              |          |
| Well Diameter (in): <u>2</u>       |                         |                                       |            |                                                                                                         | Project Number: <u>21010210</u>                                                                                                                     |                               |               |                              |          |
| Depth to Product (ft):             |                         |                                       |            |                                                                                                         | Date: <u>12/17/24</u>                                                                                                                               |                               |               |                              |          |
| Depth to Water (ft): <u>7.27</u>   |                         |                                       |            |                                                                                                         | One Well Volume (gal):                                                                                                                              |                               |               |                              |          |
| Product Thickness (ft):            |                         |                                       |            |                                                                                                         | Flow Rate (mL/min) <u>200</u>                                                                                                                       |                               |               |                              |          |
| Depth to Bottom (ft): <u>51.18</u> |                         |                                       |            |                                                                                                         | 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 |
| 1155                               |                         | 7.32                                  | 15.66      | 8.72                                                                                                    | 2.14                                                                                                                                                | 0.0                           | -352          | 7.6                          |          |
| 1200                               |                         | 7.32                                  | 15.75      | 8.76                                                                                                    | 2.19                                                                                                                                                | 0.0                           | -361          | 7.5                          |          |
| 1205                               |                         | 7.32                                  | 15.84      | 8.71                                                                                                    | 2.17                                                                                                                                                | 0.0                           | -361          | 7.3                          |          |
| 1210                               |                         | 7.60                                  | 16.00      | 9.96                                                                                                    | 2.19                                                                                                                                                | 0.0                           | -410          | 7.7                          |          |
| 1215                               |                         | 7.41                                  | 16.07      | 11.50                                                                                                   | 2.86                                                                                                                                                | 0.0                           | -480          | 6.1                          |          |
| 1220                               |                         | 7.97                                  | 16.11      | 11.86                                                                                                   | 3.37                                                                                                                                                | 0.0                           | -492          | 5.9                          |          |
| 1225                               |                         | 8.02                                  | 16.17      | 11.93                                                                                                   | 3.59                                                                                                                                                | 0.0                           | -487          | 8.1                          |          |
| 1230                               |                         | 8.08                                  | 16.23      | 11.99                                                                                                   | 3.76                                                                                                                                                | 0.0                           | -486          | 8.6                          |          |
| 1235                               |                         | 8.09                                  | 16.27      | 11.98                                                                                                   | 3.75                                                                                                                                                | 0.0                           | -481          | 5.4                          |          |
| 1240                               |                         | 8.10                                  | 16.31      | 12.00                                                                                                   | 3.80                                                                                                                                                | 0.0                           | -478          | 5.4                          |          |
| SAMPLE RECORD AND WELL DETAILS     |                         |                                       |            |                                                                                                         |                                                                                                                                                     |                               |               |                              |          |
| Sample ID                          |                         | Time Collected                        |            | Well Inspection                                                                                         |                                                                                                                                                     |                               |               |                              |          |
| <u>C027-P2M046</u>                 |                         | <u>1215</u><br><u>1245</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                                                                                          |                                                                                                                                                     |                               |               |                              |          |
| 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,                  |            | _____ 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                                                              |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                       |            | Cap is present                                                                                          |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                       |            | Well permit is present                                                                                  |                                                                                                                                                     |                               |               |                              |          |
| Sampled By <u>A27</u>              |                         |                                       |            |                                                                                                         |                                                                                                                                                     |                               |               |                              |          |



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CO27-P2M012

Project Name: COA GW 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft):

Date: 12/17/24

Depth to Water (ft): 4.86

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) 200

Depth to Bottom (ft): 11.45

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1255 |                         | 4.88       | 15.99     | 11.95           | 1.19                              | 0.54                          | -410          | 12.2                         |          |
| 1300 |                         | 4.89       | 16.01     | 11.96           | 1.20                              | 0.00                          | -428          | 17.2                         |          |
| 1305 |                         | 4.89       | 16.03     | 11.96           | 1.20                              | 0.00                          | -438          | 6.0                          |          |
| 1310 |                         | 4.89       | 16.03     | 11.96           | 1.20                              | 0.00                          | -441          | 8.1                          |          |
| 1315 |                         |            |           |                 |                                   |                               |               |                              |          |
| 1320 |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                                |                                                                                                                                                         | Well Inspection                                                                                |                |  |
|------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|----------------|--|
| C027-P2M012                        |            | 1315                                                                                                                          |                                                                                                                                                         | 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" 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<br>_____ 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

A27



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: 0209-MWI

Project Name: COA GW 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft):

Date: 12/18/24

Depth to Water (ft): 10.62

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) 26

Depth to Bottom (ft): 52.62

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 0915 |                         | 10.64      | 14.74     | 10.02           | 1.54                              | 3.02                          | 166           | 9.7                          |          |
| 0920 |                         | 10.65      | 14.90     | 10.05           | 1.53                              | 2.36                          | 141           | 7.6                          |          |
| 0925 |                         | 10.67      | 14.06     | 10.05           | 1.52                              | 2.00                          | 110           | 6.1                          |          |
| 0930 |                         | 10.68      | 14.93     | 10.08           | 1.52                              | 1.73                          | 87            | 5.8                          |          |
| 0935 |                         | 10.69      | 14.98     | 10.09           | 1.52                              | 1.54                          | 66            | 7.0                          |          |
| 0940 |                         | 10.70      | 14.99     | 10.10           | 1.52                              | 1.72                          | 45            | 5.4                          |          |
| 0945 |                         | 10.71      | 14.91     | 10.11           | 1.52                              | 1.32                          | 31            | 5.0                          |          |
| 950  |                         | 10.72      | 14.93     | 10.12           | 1.52                              | 1.82                          | 15            | 4.4                          |          |
| 955  |                         | 10.73      | 14.86     | 10.14           | 1.51                              | 1.11                          | -17           | 4.2                          |          |
| 1000 |                         | 10.75      | 14.86     | 10.16           | 1.52                              | 1.04                          | -61           | 3.7                          |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          | Time Collected | Well Inspection                                                                                                 |
|------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------|
| <u>0209-MWI</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                            |                | 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 |
| 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:

Sampled By

A25

| Low Flow Sampling<br>Purge Log |                         |                |           |                                                                                                                 |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                               |               |                              |          |
|--------------------------------|-------------------------|----------------|-----------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|------------------------------|----------|
| Well Number: <u>0909-MWI</u>   |                         |                |           |                                                                                                                 | Project Name: <u>COA GW 2024</u>                                                                                                                    |                               |               |                              |          |
| Well Diameter (in):            |                         |                |           |                                                                                                                 | Project Number: <u>21010210</u>                                                                                                                     |                               |               |                              |          |
| Depth to Product (ft):         |                         |                |           |                                                                                                                 | Date:                                                                                                                                               |                               |               |                              |          |
| Depth to Water (ft):           |                         |                |           |                                                                                                                 | One Well Volume (gal):                                                                                                                              |                               |               |                              |          |
| Product Thickness (ft):        |                         |                |           |                                                                                                                 | Flow Rate (mL/min)                                                                                                                                  |                               |               |                              |          |
| Depth to Bottom (ft):          |                         |                |           |                                                                                                                 | 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 |
| 1005                           |                         | 10.76          | 14.85     | 10.23                                                                                                           | 1.52                                                                                                                                                | 0.91                          | -104          | 3.8                          |          |
| 1010                           |                         | 10.78          | 14.96     | 10.47                                                                                                           | 1.55                                                                                                                                                | 0.66                          | -148          | 3.5                          |          |
| 1015                           |                         | 10.80          | 15.05     | 11.58                                                                                                           | 1.88                                                                                                                                                | 0.01                          | -145          | 4.0                          |          |
| 1020                           |                         | 10.81          | 14.95     | 12.75                                                                                                           | 2.88                                                                                                                                                | 0.00                          | -226          | 3.9                          |          |
| 1025                           |                         | 10.81          | 15.03     | 12.48                                                                                                           | 2.66                                                                                                                                                | 0.00                          | -245          | 4.1                          |          |
| 1030                           |                         | 10.82          | 15.17     | 12.59                                                                                                           | 2.90                                                                                                                                                | 0.00                          | -255          | 4.0                          |          |
| 1035                           |                         | 10.83          | 15.11     | 12.67                                                                                                           | 3.18                                                                                                                                                | 0.00                          | -271          | 4.1                          |          |
| 1040                           |                         | 10.84          | 15.11     | 12.67                                                                                                           | 3.35                                                                                                                                                | 0.00                          | -283          | 3.8                          |          |
| 1045                           |                         | 10.84          | 15.11     | 12.61                                                                                                           | 3.64                                                                                                                                                | 0.00                          | -292          | 4.0                          |          |
| 1050                           |                         | 10.85          | 15.16     | 12.38                                                                                                           | 3.72                                                                                                                                                | 0.00                          | -261          | 4.0                          |          |
| 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                                                                                              |                                                                                                                                                     |                               |               |                              |          |
|                                |                         |                |           | 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                     |                         | Comments:      |           |                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |
|                                |                         |                |           |                                                                                                                 |                                                                                                                                                     |                               |               |                              |          |

## Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                               |                                  |
|-------------------------------|----------------------------------|
| Well Number: <b>CO209-MWI</b> | Project Name: <b>COA GW 2024</b> |
| Well Diameter (in):           | Project Number: <b>21010210</b>  |
| Depth to Product (ft):        | Date:                            |
| Depth to Water (ft):          | One Well Volume (gal):           |
| Product Thickness (ft):       | Flow Rate (mL/min)               |
| Depth to Bottom (ft):         | 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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1055 |                         | 10.85      | 15.01     | 11.80           | 5.97                              | 0.0                           | -262          | 4.1                          |          |
| 1100 |                         | 10.88      | 15.08     | 10.71           | 4.95                              | 0.0                           | -261          | 3.8                          |          |
| 1105 |                         | 10.88      | 15.09     | 10.34           | 4.81                              | 0.0                           | -254          | 3.8                          |          |
| 1100 |                         | 10.89      | 15.24     | 10.16           | 5.19                              | 0.0                           | -257          | 4.4                          |          |
| 1115 |                         |            |           |                 |                                   | 0.0                           |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

### SAMPLE RECORD AND WELL DETAILS

| Sample ID                          | Time Collected | Well Inspection                                                                                         |
|------------------------------------|----------------|---------------------------------------------------------------------------------------------------------|
| <b>CO209-MWI</b>                   | <b>1120</b>    | 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                            |                | 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" 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:                          |                |                                                                                                         |
| Sampled By _____                   |                |                                                                                                         |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CO209-MWS

Project Name: COA GW 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft):

Date: 12/18/24

Depth to Water (ft): 10.74

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) 200

Depth to Bottom (ft): 28.26

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1200 |                         | 10.76      | 15.54     | 12.71           | 5.37                              | 0.0                           | -232          | 53.5                         |          |
| 1205 |                         | 10.70      | 15.56     | 12.73           | 5.37                              | 0.0                           | -255          | 27.0                         |          |
| 1210 |                         | 10.76      | 15.60     | 12.73           | 5.37                              | 0.0                           | -259          | 16.6                         |          |
| 1215 |                         | 10.76      | 15.60     | 12.73           | 5.37                              | 0.0                           | -264          | 13.7                         |          |
| 1220 |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

|                                    |            |                                                                                                                               |            |                                                                                                                                                          |  |  |
|------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Sample ID                          |            | Time Collected                                                                                                                |            | Well Inspection                                                                                                                                          |  |  |
| CO209-MWS                          |            | 1220                                                                                                                          |            | 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                            |            |                                                                                                                               |            | 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" 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<br>_____ 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: <u>ALJ</u>             |            |                                                                                                                               |            |                                                                                                                                                          |  |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: C029-P2M010

Project Name: COA GW 2024

Well Diameter (in):

Project Number: 21010210

Depth to Product (ft): 1

Date: 12/18/24

Depth to Water (ft): 15.14

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) 200

Depth to Bottom (ft): 21.99

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1300 |                         | 15.20      | 14.38     | 13.02           | 4.90                              | 0.51                          | -225          | 57.0                         |          |
| 1305 |                         | 15.21      | 14.27     | 13.06           | 4.83                              | 0.00                          | -249          | 12.8                         |          |
| 1310 |                         | 15.21      | 14.18     | 13.08           | 4.81                              | 0.0                           | -263          | 5.8                          |          |
| 1315 |                         | 15.21      | 14.10     | 13.10           | 4.80                              | 0.0                           | -264          | 3.1                          |          |
| 1320 |                         | 15.21      | 14.01     | 13.11           | 4.79                              | 0.0                           | -274          | 2.4                          |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                           |            | Time Collected                                                           |            | Well Inspection                                                                                                                                          |  |
|-------------------------------------|------------|--------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| C029-P2M010                         |            | 1325                                                                     |            | 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                                                             |            | Poor: heavily cracked                                                                                                                                    |  |
| TPH-GRO                             |            | and Cd                                                                   |            | Unsure: pad has been buried by site activities                                                                                                           |  |
| TPH-DRO                             |            | BTEX and                                                                 |            | Bolts in place                                                                                                                                           |  |
| O&G                                 |            | naphthalene                                                              |            | 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, Chloride, Turbidity, TDS, Specific Conductance |            | 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<br>_____ 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:<br>Sampled By: <u>FLB</u> |            |                                                                          |            |                                                                                                                                                          |  |



Well Number: 60210-MWS

Well Diameter (in): 2

Depth to Product (ft):

Date: 12/18/24

Depth to Water (ft): 14.69

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) 2.00

Depth to Bottom (ft): 28.08

Length of time Purged (min)

[illegible]

| Sample ID                          |            | Time Collected                                                                                                                |            | Well Inspection                                                                                                                                         |  |
|------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| C0210-MWS                          |            | 1430                                                                                                                          |            | 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                            |            |                                                                                                                               |            | 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                                                                                                                                          |  |
|                                    |            |                                                                                                                               |            | 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. = 1.4 gal/ft<br>_____ 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                                                                                                                                          |  |
|                                    |            | Well permit is present                                                                                                        |            |                                                                                                                                                         |  |

Sampled By AZB

Comments:



| Low Flow Sampling<br>Purge Log        |                         |                                      |            |                                                                                                        |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                               |               |                            |          |
|---------------------------------------|-------------------------|--------------------------------------|------------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|----------------------------|----------|
| Well Number: <b>C058-PZM001</b>       |                         |                                      |            |                                                                                                        | Project Name: <b>COA GW 2024</b>                                                                                                                    |                               |               |                            |          |
| Well Diameter (in): <b>2</b>          |                         |                                      |            |                                                                                                        | Project Number: <b>21010210</b>                                                                                                                     |                               |               |                            |          |
| Depth to Product (ft):                |                         |                                      |            |                                                                                                        | Date: <b>11/20/2024</b>                                                                                                                             |                               |               |                            |          |
| Depth to Water (ft): <b>+4 (3.71)</b> |                         |                                      |            |                                                                                                        | One Well Volume (gal):                                                                                                                              |                               |               |                            |          |
| Product Thickness (ft):               |                         |                                      |            |                                                                                                        | Flow Rate (ml/min): <b>200</b>                                                                                                                      |                               |               |                            |          |
| Depth to Bottom (ft): <b>14.52</b>    |                         |                                      |            |                                                                                                        | Length of time Purged (min):                                                                                                                        |                               |               |                            |          |
| PURGING RECORD                        |                         |                                      |            |                                                                                                        |                                                                                                                                                     |                               |               |                            |          |
| Time                                  | Volume Purged (gallons) | D/W (feet)                           | Temp (°C)  | pH (s.u.) ± 0.1                                                                                        | Specific Conductance (mcms/cm) ± 3%                                                                                                                 | Dissolved Oxygen (mg/L) ± 0.3 | ORP (mV) ± 10 | Turbidity (NTU) ± 10% or 5 | Comments |
| 1050                                  |                         | 17.25                                | 19.35      | 11.90                                                                                                  | 1.27                                                                                                                                                | 0.00                          | -134          | 1.9                        |          |
| 1055                                  |                         | 17.45                                | 19.42      | 11.97                                                                                                  | 1.34                                                                                                                                                | 0.00                          | -140          | 1.6                        |          |
| 1100                                  |                         | 17.63                                | 18.96      | 12.04                                                                                                  | 1.42                                                                                                                                                | 0.00                          | -144          | 1.5                        |          |
| 1105                                  |                         | 17.80                                | 18.86      | 12.10                                                                                                  | 1.49                                                                                                                                                | 0.00                          | -151          | 1.7                        |          |
| 1110                                  |                         | 17.95                                | 18.84      | 12.16                                                                                                  | 1.64                                                                                                                                                | 0.00                          | -155          | 1.6                        |          |
| 1115                                  |                         | 18.10                                | 18.85      | 12.24                                                                                                  | 1.79                                                                                                                                                | 0.00                          | -158          | 1.8                        |          |
| 1120                                  |                         | 18.29                                | 18.57      | 12.31                                                                                                  | 1.96                                                                                                                                                | 0.49                          | -159          | 1.5                        |          |
| 1125                                  |                         | 18.40                                | 18.66      | 12.34                                                                                                  | 2.03                                                                                                                                                | 0.51                          | -159          | 1.2                        |          |
| 1130                                  |                         | 18.56                                | 18.48      | 12.39                                                                                                  | 2.15                                                                                                                                                | 0.49                          | -159          | 1.4                        |          |
| 1135                                  |                         | 18.70                                | 18.46      | 12.42                                                                                                  | 2.28                                                                                                                                                | 0.83                          | -159          | 1.5                        |          |
| SAMPLE RECORD AND WELL DETAILS        |                         |                                      |            |                                                                                                        |                                                                                                                                                     |                               |               |                            |          |
| Sample ID                             |                         | Time Collected                       |            | Well Inspection                                                                                        |                                                                                                                                                     |                               |               |                            |          |
| <b>C058-PZM001</b>                    |                         | <b>1320</b>                          |            | Well has been found and is accessible without hazards. If not, 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                                  |            | 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                   |                         | Chloride, Turbidity                  |            | Well is structurally sound: not bent, broken and no blockage identified                                |                                                                                                                                                     |                               |               |                            |          |
| PCB                                   |                         | FDS                                  |            | 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                            |                         |                                      |            | Comments:                                                                                              |                                                                                                                                                     |                               |               |                            |          |
|                                       |                         |                                      |            |                                                                                                        |                                                                                                                                                     |                               |               |                            |          |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: **C058-PZM001**

Project Name: **COA GW 2024**

Well Diameter (in): **2**

Project Number: **21010210**

Depth to Product (ft): **4**

Date: **11/20/2024**

Depth to Water (ft): **13.71**

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (ml./min) **200**

Depth to Bottom (ft): **19.32**

Length of time Purged (min)

## PURGING RECORD

| Time | Volume Purged (gallons) | D/W (feet) | Temp (°C) | pH (unit) ± 0.1 | Specific Conductance (mS/cm) ± 3% | Dissolved Oxygen (mg/L) ± 0.3 | ORP (mV) ± 10 | Turbidity (NTU) ± 10% or .5 | Comments |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|-----------------------------|----------|
| 1000 |                         | 14.24      | 18.84     | 12.08           | 2.09                              | 0.00                          | -151          | 39.1                        |          |
| 1005 |                         | 14.36      | 18.90     | 12.01           | 1.87                              | 0.00                          | -152          | 10.8                        |          |
| 1010 |                         | 14.56      | 18.97     | 11.95           | 1.66                              | 0.00                          | -143          | 32.9                        |          |
| 1015 |                         | 14.82      | 19.22     | 11.90           | 1.49                              | 0.00                          | -136          | 2.3                         |          |
| 1020 |                         | 15.12      | 19.53     | 11.84           | 1.34                              | 0.00                          | -132          | 1.9                         |          |
| 1025 |                         | 15.62      | 19.65     | 11.78           | 1.22                              | 0.00                          | -129          | 2.6                         |          |
| 1030 |                         | 16.15      | 19.40     | 11.74           | 1.14                              | 0.00                          | -125          | 2.4                         |          |
| 1035 |                         | 16.49      | 19.40     | 11.74           | 1.12                              | 0.00                          | -124          | 2.0                         |          |
| 1040 |                         | 16.80      | 19.41     | 11.80           | 1.16                              | 0.00                          | -124          | 1.9                         |          |
| 1045 |                         | 17.05      | 19.37     | 11.86           | 1.22                              | 0.00                          | -122          | 1.8                         |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                                 |                                                                                                      | Well Inspection                                                                                |  |  |
|------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|--|--|
| C058-PZM001                        |            | 1320                                                                                                                           |                                                                                                      | 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                            |            |                                                                                                                                | Unclear: 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, 3" ID = 0.653 gal/ft, 6" ID = 1.47 gal/ft |                                                                                                |  |  |
| 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                                                                                 |  |  |
|                                    |            |                                                                                                                                |                                                                                                      | Well permit is present                                                                         |  |  |
| Sampled By                         |            |                                                                                                                                |                                                                                                      |                                                                                                |  |  |



Well Number: 1058-PZM001

Project Name: COA GW 2024

Well Diameter (in): 7

Project Number: 21010210

[Depth to Product (ft):]

Date: 11/10/2024

Depth to Water (ft): 13.71

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (ml/min) *200*

Depth to Bottom (ft): 19.32

Length of time Purged (min)

## PURGING RECORD

### SAMPLE RECORD AND WELL DETAILS

|                                    |            |                                       |            |                                                                                                |  |
|------------------------------------|------------|---------------------------------------|------------|------------------------------------------------------------------------------------------------|--|
| Sample ID                          |            | Time Collected                        |            | Well Inspection                                                                                |  |
| 1056-12m001                        |            | 1320                                  |            | 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                                                                    |  |
| Parameter                          | Collected? | Parameter                             | Collected? | Fair: some visible crack and                                                                   |  |
| TCL-VOCs                           |            | Dissolved Zn                          |            | Poor: heavily cracked                                                                          |  |
| TPH-GRO                            |            | and Cd                                |            | Unsure: pad has been buried                                                                    |  |
| TPH-DRO                            |            | BTEX and                              |            | Bolts in place                                                                                 |  |
| O&G                                |            | naphthalene                           |            | 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 Vol                                                                                     |  |
| Hexavalent Chromium                |            | Chloride, Turbidity,                  |            | Well is structurally sound: not bent, broken, and no blockage identified                       |  |
| PCB                                |            | FDS,                                  |            | 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                                                                                 |  |
|                                    |            |                                       |            | Well permit is present                                                                         |  |
| Stop 1B                            |            | ran dry                               |            |                                                                                                |  |



Well Number: CU 56-82P 001

Project Name: COA GW

Well Diameter (in)  $r$ 

Project Number 21010

### Depth to Product (1)

Date. 11/20/2024

Depth to Water (ft) 15.36

One Well Volume

Product thickness (mm)

Flow Rate (ml min<sup>-1</sup>) 200

|                     |      |
|---------------------|------|
| Depth to Bottom (f) | 1416 |
|---------------------|------|

Length of time for

[illegible]

|                                    |            |                                       |            |                                                                          |  |
|------------------------------------|------------|---------------------------------------|------------|--------------------------------------------------------------------------|--|
| Sample ID                          |            | Time Collected                        |            | Well ID                                                                  |  |
| C056-P2P001                        |            | 1310                                  |            | 1310                                                                     |  |
| Sampling Parameters                |            |                                       |            | Well Pad Condition                                                       |  |
| Parameter                          | Collected? | Parameter                             | Collected? | Well Casing Condition                                                    |  |
| TCL-VOCs                           |            | Dissolved Zn                          |            | Casing is free from damage and visibly marked with the Well ID           |  |
| TPH-GRO                            |            | and Cd                                |            | Well Condition                                                           |  |
| TPH-DRO                            |            | BTEX and                              |            | Well is structurally sound; not bent, broken, and no blockage identified |  |
| O&G                                |            | naphthalene                           |            | Well is bent or broken but is able to be used                            |  |
| Total Cyanide                      |            | VOC                                   |            | Well is broken and is not able to be used                                |  |
| TCL SVOCs                          |            | SVOC, TAL                             |            | Well is blocked and is not able to be used                               |  |
| TAL Metals and Mercury (total)     |            | Metals and mercury, Sulfate, Nitrate, |            | Cap is present                                                           |  |
| TAL Metals and Mercury (dissolved) |            | Ammonia, COD, Alkalinity,             |            | Well permit is present                                                   |  |
| Hexavalent Chromium                |            | Chloride, Turbidity,                  |            |                                                                          |  |
| PCB                                |            | HDS,                                  |            |                                                                          |  |
| Matrix Spike                       |            | Specific                              |            |                                                                          |  |
| Duplicate                          |            | Conductance                           |            |                                                                          |  |

Comments:

Sampled By

A 2)

## Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                    |                                  |
|------------------------------------|----------------------------------|
| Well Number: <b>CO20-PCM005</b>    | Project Name: <b>COA GW 2024</b> |
| Well Diameter (in): <b>2</b>       | Project Number: <b>21010210</b>  |
| Depth to Product (ft):             | Date: <b>11/20/2024</b>          |
| Depth to Water (ft): <b>15.50</b>  | One Well Volume (gal):           |
| Product Thickness (ft):            | Flow Rate (ml/min): <b>200</b>   |
| Depth to Bottom (ft): <b>22.61</b> | Length of time Purged (min):     |

### PURGING RECORD

| Time | Volume Purged (gallons) | DTW (feet) | Temp (°C) | pH (±0.1) | Specific Conductance (µmS/cm) (±3%) | Dissolved Oxygen (mg/L) (±0.3) | ORP (mV) (±10) | Turbidity (NTU) (±10% or ±5) | Comments |
|------|-------------------------|------------|-----------|-----------|-------------------------------------|--------------------------------|----------------|------------------------------|----------|
| 1210 |                         | 16.75      | 19.29     | 12.41     | 2.97                                | 0.00                           | -202           | 163                          |          |
| 1215 |                         | 17.67      | 19.15     | 12.45     | 3.02                                | 0.00                           | -230           | 81.6                         |          |
| 1220 |                         | 18.44      | 19.12     | 12.46     | 3.03                                | 0.00                           | -238           | 40.5                         |          |
| 1225 |                         | 19.09      | 19.17     | 12.45     | 3.63                                | 0.00                           | -244           | 14.7                         |          |
|      |                         |            |           |           |                                     |                                |                |                              |          |
|      |                         |            |           |           |                                     |                                |                |                              |          |
|      |                         |            |           |           |                                     |                                |                |                              |          |
|      |                         |            |           |           |                                     |                                |                |                              |          |
|      |                         |            |           |           |                                     |                                |                |                              |          |
|      |                         |            |           |           |                                     |                                |                |                              |          |
|      |                         |            |           |           |                                     |                                |                |                              |          |
|      |                         |            |           |           |                                     |                                |                |                              |          |
|      |                         |            |           |           |                                     |                                |                |                              |          |

### SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                         | Well Inspection                                                                                |  |  |
|------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|--|--|
| CO20-PCM007                        |            | 1230                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                         | 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                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                         | Unclear: pad has been buried by site activities                                                |  |  |
| O&G                                |            |                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                         | Bolts in place                                                                                 |  |  |
| Total Cyanide                      |            | <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> VOC,<br/>SVOC, TAI<br/>Metals and mercury,<br/>Sulfate,<br/>Nitrate,<br/>Ammonia,<br/>COD,<br/>Alkalinity,<br/>Chloride,<br/>Turbidity,<br/>TDS,<br/>Specific Conductance </div> <div style="width: 45%; text-align: right;"> <b>Well Casing Condition</b><br/> Casing is free from damage and visibly marked with the Well ID </div> </div> | Bolts are missing                                                                                       |                                                                                                |  |  |
| TCL SVOCs                          |            |                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Well Condition</b>                                                                                   |                                                                                                |  |  |
| TAI Metals and Mercury (total)     |            |                                                                                                                                                                                                                                                                                                                                                                                                                                     | 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 |                                                                                                |  |  |
| TAI 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                                                                         |  |  |
|                                    |            |                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                         |                                                                                                |  |  |
| Sampled By                         |            | Comments: <b>purse slowed</b>                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                         |                                                                                                |  |  |



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: **CO30-PZM015**

Project Name: **COA GW 2024**

Well Diameter (in): **2**

Project Number: **21010210**

Depth to Product (ft):

Date: **11/20/2024**

Depth to Water (ft): **11.64**

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (ml/min): **200**

Depth to Bottom (ft): **121.67**

Length of time Purged (min):

## PURGING RECORD

| Time | Volume Purged (gallons) | DTW (feet) | Temp (C) | pH (±0.1) | Specific Conductance (µS/cm) (±3%) | Dissolved Oxygen (mg/L) (±0.3) | ORP (mV) (±10) | Turbidity (NTU) (10% or 5) | Comments |
|------|-------------------------|------------|----------|-----------|------------------------------------|--------------------------------|----------------|----------------------------|----------|
| 1345 |                         | 11.65      | 18.54    | 12.70     | 2.89                               | 0.50                           | -217           | 44.4                       |          |
| 1350 |                         | 11.65      | 18.51    | 12.72     | 2.92                               | 0.00                           | -235           | 18.9                       |          |
| 1355 |                         | 11.65      | 18.50    | 12.73     | 2.93                               | 0.00                           | -259           | 9.6                        |          |
| 1400 |                         | 11.65      | 18.49    | 12.73     | 2.93                               | 0.00                           | -242           | 6.0                        |          |
|      |                         |            |          |           |                                    |                                |                |                            |          |
|      |                         |            |          |           |                                    |                                |                |                            |          |
|      |                         |            |          |           |                                    |                                |                |                            |          |
|      |                         |            |          |           |                                    |                                |                |                            |          |
|      |                         |            |          |           |                                    |                                |                |                            |          |
|      |                         |            |          |           |                                    |                                |                |                            |          |
|      |                         |            |          |           |                                    |                                |                |                            |          |
|      |                         |            |          |           |                                    |                                |                |                            |          |
|      |                         |            |          |           |                                    |                                |                |                            |          |
|      |                         |            |          |           |                                    |                                |                |                            |          |
|      |                         |            |          |           |                                    |                                |                |                            |          |

## SAMPLE RECORD AND WELL DETAILS

|                                    |            |                                                                                                                |            |                                                                                                     |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|-----------------------------------------------------------------------------------------------------|--|
| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                     |  |
| CO30-PZM015                        |            | 1405                                                                                                           |            | 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                                                                                           |            | Unsured: pad has been buried by site activities                                                     |  |
| O&G                                |            |                                                                                                                |            | Bolts in place                                                                                      |  |
| Total Cyanide                      |            | VOC                                                                                                            |            | Bolts are missing                                                                                   |  |
| TCL SVOCs                          |            | 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" ID = 0.011 gal/ft, 2" ID = 0.163 gal/ft, 4" ID = 0.653 gal/ft, 6" ID = 1.47 gal/ft |  |
| 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                                                          |  |
|                                    |            |                                                                                                                |            | Cap is present                                                                                      |  |
|                                    |            |                                                                                                                |            | Well permit is present                                                                              |  |
| Sampled By                         |            |                                                                                                                |            |                                                                                                     |  |
| AZS                                |            |                                                                                                                |            |                                                                                                     |  |



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: **CO195-MWS**

Project Name: **COA GW 2024**

Well Diameter (in): **2**

Project Number: **21010210**

Depth to Product (ft):

Date: **11/20/2024**

Depth to Water (ft): **13.74**

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (ml/min): **Red**

Depth to Bottom (ft): **38.30**

Length of time Purged (min):

## PURGING RECORD

| Time | Volume Purged (gallons) | D/W (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 (°S) | Comments |
|------|-------------------------|------------|-----------|---------------|-----------------------------------|-------------------------------|---------------|-------------------------------|----------|
| 1420 |                         | 13.74      | 18.54     | 12.60         | 2.41                              | 0.00                          | -208          | 25.0                          |          |
| 1425 |                         | 13.74      | 18.53     | 12.63         | 2.47                              | 0.00                          | -227          | 18.6                          |          |
| 1430 |                         | 13.74      | 18.58     | 12.63         | 2.51                              | 0.00                          | -236          | 14.4                          |          |
| 1435 |                         | 13.74      | 18.63     | 12.64         | 2.53                              | 0.00                          | -241          | 12.3                          |          |
|      |                         |            |           |               |                                   |                               |               |                               |          |
|      |                         |            |           |               |                                   |                               |               |                               |          |
|      |                         |            |           |               |                                   |                               |               |                               |          |
|      |                         |            |           |               |                                   |                               |               |                               |          |
|      |                         |            |           |               |                                   |                               |               |                               |          |
|      |                         |            |           |               |                                   |                               |               |                               |          |
|      |                         |            |           |               |                                   |                               |               |                               |          |
|      |                         |            |           |               |                                   |                               |               |                               |          |
|      |                         |            |           |               |                                   |                               |               |                               |          |
|      |                         |            |           |               |                                   |                               |               |                               |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                        |            | Well Inspection                                                                                         |  |
|------------------------------------|------------|---------------------------------------|------------|---------------------------------------------------------------------------------------------------------|--|
| CO195-MWS                          |            | 1440                                  |            | 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                                                            |  |
| ICL-VOCs                           |            | Dissolved Zn                          |            | Poor: heavily cracked                                                                                   |  |
| IPH-GRO                            |            | and Cd                                |            | Unsure: pad has been buried by site activities                                                          |  |
| IPH-DRO                            |            | BTEX and                              |            | Bolts in place                                                                                          |  |
| O&G                                |            | naphthalene                           |            | Bolts are missing                                                                                       |  |
| Total Cyanide                      |            | VOC,                                  |            | Well Casing Condition                                                                                   |  |
| ICL SVOCs                          |            | SVOC, FAL                             |            | Casing is free from damage and visibly marked with the Well ID                                          |  |
| FAL Metals and Mercury (total)     |            | Metals and mercury, Sulfate, Nitrate, |            | Well Condition                                                                                          |  |
| FAL Metals and Mercury (dissolved) |            | Ammonia, (OD), 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                       |            | Specific                              |            | Well is broken and is not able to be used                                                               |  |
| Duplicate                          |            | Conductance                           |            | Well is blocked and is not able to be used                                                              |  |
|                                    |            |                                       |            | Cap is present                                                                                          |  |
|                                    |            |                                       |            | Well permit is present                                                                                  |  |
| Sampled By: <b>AZJ</b>             |            | Comments:                             |            |                                                                                                         |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: **1094-PZM007**

Project Name: **COA GW 2024**

Well Diameter (in): **2**

Project Number: **21010210**

Depth to Product (ft):

Date: **11/19/2024**

Depth to Water (ft): **14.99**

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (ml/min): **200**

Depth to Bottom (ft): **22.21**

Length of time Purged (min):

## PURGING RECORD

| Time | Volume Purged (gallons) | DTW (feet) | Temp (C) | pH (std. 10.1) | Specific Conductance (ms/cm ± 3%) | Dissolved Oxygen (mg/L ± 0.3) | ORP (mV) ± 10 | Turbidity (NTU) ± 10% or 5 | Comments |
|------|-------------------------|------------|----------|----------------|-----------------------------------|-------------------------------|---------------|----------------------------|----------|
| 940  |                         | 15.30      | 18.04    | 10.17          | 1.10                              | 0.16                          | -104          | 11.4                       |          |
| 945  |                         | 15.40      | 17.77    | 10.41          | 0.34                              | 0.73                          | -20           | 10.5                       |          |
| 950  |                         | 15.30      | 17.72    | 10.25          | 1.72                              | 0.16                          | -77           | 9.3                        |          |
| 955  |                         | 15.28      | 17.58    | 10.17          | 1.93                              | 0.00                          | -92           | 9.3                        |          |
| 1000 |                         | 15.27      | 17.51    | 10.12          | 2.05                              | 0.00                          | -99           | 8.7                        |          |
| 1005 |                         | 15.27      | 17.45    | 10.08          | 2.14                              | 0.00                          | -104          | 8.1                        |          |
| 1010 |                         | 15.27      | 17.42    | 10.07          | 2.21                              | 0.00                          | -107          | 8.7                        |          |
| 1015 |                         | 15.27      | 17.38    | 10.06          | 2.24                              | 0.00                          | -109          | 8.5                        |          |
| 1020 |                         | 15.27      | 17.35    | 10.05          | 2.25                              | 0.00                          | -112          | 7.4                        |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                        |            | Well Inspection                                                                                        |  |
|------------------------------------|------------|---------------------------------------|------------|--------------------------------------------------------------------------------------------------------|--|
| 1024-PZM007                        |            | 1025                                  |            | 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                          |            | Fair: some visible cracks and or not sloping                                                           |  |
| TPH-GRO                            |            | and Cd                                |            | Poor: heavily cracked                                                                                  |  |
| TPH-DRO                            |            | BTEX and                              |            | Unsure: pad has been buried by site activities                                                         |  |
| O&G                                |            | naphthalene                           |            | Bolts in place                                                                                         |  |
| Total Cyanide                      |            | VOC,                                  |            | Bolts are missing                                                                                      |  |
| TCL SVOCs                          |            | 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, Alkalinity,             |            | Well Condition                                                                                         |  |
| Hexavalent Chromium                |            | 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                                |            | IDS,                                  |            | Well is structurally sound; not bent, broken, and no blockage identified                               |  |
| 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                                                              |  |
| Comments:                          |            |                                       |            | Well is blocked and is not able to be used                                                             |  |
| Sampled By                         |            |                                       |            | Cap is present                                                                                         |  |
|                                    |            |                                       |            | Well permit is present                                                                                 |  |

- slowed purge flow rate

## Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CO23-P2M008

Project Name: COA GW 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft):

Date: 11/19/2024

Depth to Water (ft): 15.23

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (ml/min): 200

Depth to Bottom (ft): 27.22

Length of time Purged (min):

### PURGING RECORD

| Time | Volume Purged (gallons) | DTW (feet) | Temp (C) | pH (SU) (0-14) | Specific Conductance (mS/cm) (0-3000) | Dissolved Oxygen (mg/L) (0-3) | ORP (mV) (-1000 to 1000) | Turbidity (NTU) (0-5) | Comments |
|------|-------------------------|------------|----------|----------------|---------------------------------------|-------------------------------|--------------------------|-----------------------|----------|
| 1040 |                         | 15.23      | 17.20    | 11.07          | 1.77                                  | 0.00                          | -207                     | 12.9                  |          |
| 1045 |                         | 15.23      | 17.35    | 11.60          | 1.78                                  | 0.00                          | -215                     | 11.3                  |          |
| 1050 |                         | 15.23      | 17.40    | 11.69          | 1.77                                  | 0.00                          | -219                     | 13.5                  |          |
| 1055 |                         | 15.23      | 17.50    | 11.70          | 1.75                                  | 0.00                          | -222                     | 4.2                   |          |
| 1100 |                         |            |          |                |                                       |                               |                          |                       |          |
|      |                         |            |          |                |                                       |                               |                          |                       |          |
|      |                         |            |          |                |                                       |                               |                          |                       |          |
|      |                         |            |          |                |                                       |                               |                          |                       |          |
|      |                         |            |          |                |                                       |                               |                          |                       |          |
|      |                         |            |          |                |                                       |                               |                          |                       |          |
|      |                         |            |          |                |                                       |                               |                          |                       |          |
|      |                         |            |          |                |                                       |                               |                          |                       |          |
|      |                         |            |          |                |                                       |                               |                          |                       |          |
|      |                         |            |          |                |                                       |                               |                          |                       |          |

### SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected      |            | Well Inspection                                                                                                                                 |  |
|------------------------------------|------------|---------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <u>CO23-P2M008</u>                 |            | <u>1100</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                                                                                                                           |  |
| TPE-GRO                            |            | BTX and naphthalene |            | Unsure: pad has been buried by site activities                                                                                                  |  |
| TPE-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                                                                                                                                  |  |
|                                    |            |                     |            | Casing Volume: 1" ID = 0.041 gal/ft, 2" ID = 0.163 gal/ft, 4" ID = 0.653 gal/ft, 6" ID = 1.17 gal/ft, 8" ID = 2.01 gal/ft, 10" ID = 2.99 gal/ft |  |
|                                    |            |                     |            |                                                                                                                                                 |  |
| 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                                                                                                                          |  |
|                                    |            |                     |            |                                                                                                                                                 |  |
| Sampled By:                        |            | Comments:           |            |                                                                                                                                                 |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                    |                                        |
|------------------------------------|----------------------------------------|
| Well Number: <u>GD-02</u>          | Project Name: <u>COA GW 2024</u>       |
| Well Diameter (in): <u>  </u>      | Project Number: <u>21010210</u>        |
| Depth to Product (ft): <u>  </u>   | Date: <u>12/16/24</u>                  |
| Depth to Water (ft): <u>20.49</u>  | One Well Volume (gal): <u>200</u>      |
| Product Thickness (ft): <u>  </u>  | Flow Rate (mL/min): <u>200</u>         |
| Depth to Bottom (ft): <u>49.73</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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1215 |                         | 20.57      | 17.07     | 7.07            | 0.242                             | 0.06                          | 25            | 0.0                          |          |
| 1220 |                         | 20.57      | 17.14     | 7.76            | 0.243                             | 0.06                          | -37           | 0.0                          |          |
| 1225 |                         | 20.57      | 17.14     | 7.34            | 0.253                             | 0.06                          | -69           | 0.0                          |          |
| 1230 |                         | 20.57      | 17.12     | 7.39            | 0.277                             | 0.00                          | -90           | 0.0                          |          |
| 1235 |                         | 20.57      | 17.07     | 7.43            | 0.344                             | 0.08                          | -115          | 0.0                          |          |
| 1240 |                         | 20.57      | 17.03     | 7.56            | 0.726                             | 0.0                           | -164          | 0.0                          |          |
| 1245 |                         | 20.57      | 17.03     | 7.79            | <del>0.726</del>                  | 0.0                           | -272          | 0.0                          |          |
| 1250 |                         | 20.57      | 16.93     | 7.95            | 4.31                              | 0.0                           | -318          | 0.0                          |          |
| 1255 |                         | 20.57      | 16.84     | 8.05            | 5.66                              | 0.0                           | -335          | 0.0                          |          |
| 1300 |                         | 20.57      | 16.78     | 8.04            | 6.19                              | 0.0                           | -344          | 0.0                          |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                                                                          |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| GD-02                              |            | 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                                                                                                   |            | Poor: heavily cracked                                                                                                                                    |  |
| TPH-GRO                            |            | and Cd                                                                                                         |            | Unsure: pad has been buried by site activities                                                                                                           |  |
| TPH-DRO                            |            | BTEX and                                                                                                       |            | Bolts in place                                                                                                                                           |  |
| O&G                                |            | naphthalene                                                                                                    |            | 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, 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<br>_____ 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                                                                                                                                           |  |
|                                    |            |                                                                                                                |            | Well permit is present                                                                                                                                   |  |
|                                    |            |                                                                                                                |            |                                                                                                                                                          |  |
| Sampled By: <u>ACS</u>             |            |                                                                                                                |            |                                                                                                                                                          |  |



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CO188-MWF

Well Diameter (in): 7

Depth to Product (ft):

Depth to Water (ft): 15.95

Product Thickness (ft):

Depth to Bottom (ft): 55.85

Project Name: COA GW 2024

Project Number: 21010210

Date: 10/21/24

One Well Volume (gal):

Flow Rate (mL/min): 200

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 |
|------|-------------------------|------------|-----------|----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1435 |                         | 15.95      | 25.13     | 9.20           | 0.687                             | 0.00                          | -157          | 12.9                         |          |
| 1440 |                         | 15.95      | 24.25     | 9.86           | 0.692                             | 0.00                          | -192          | 16.7                         |          |
| 1445 |                         | 15.95      | 23.93     | 9.93           | 0.666                             | 0.00                          | -211          | 19.2                         |          |
| 1450 |                         | 15.95      | 23.74     | 9.97           | 0.662                             | 0.00                          | -226          | 16.1                         |          |
| 1455 |                         | 15.95      | 23.64     | 10.00          | 0.660                             | 0.00                          | -242          | 12.0                         |          |
| 1500 |                         | 15.96      | 23.40     | 10.04          | 0.660                             | 0.00                          | -259          | 12.1                         |          |
| 1505 |                         | 15.96      | 23.41     | 10.05          | 0.660                             | 0.00                          | -262          | 11.9                         |          |
| 1510 |                         | 15.98      | 23.42     | 10.06          | 0.659                             | 0.00                          | -272          | 5.9                          |          |

## SAMPLE RECORD AND WELL DETAILS

Sample ID

Time Collected

CO188-MWF

1515

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

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

AZ

pH > 10

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                    |                                  |
|------------------------------------|----------------------------------|
| Well Number: <u>CO 184-MWT</u>     | Project Name: <u>COA GW 2024</u> |
| Well Diameter (in): <u>12</u>      | Project Number: <u>21010210</u>  |
| Depth to Product (ft):             | Date: <u>11/01/24</u>            |
| Depth to Water (ft): <u>14.51</u>  | One Well Volume (gal):           |
| Product Thickness (ft):            | Flow Rate (mL/min): <u>1000</u>  |
| Depth to Bottom (ft): <u>41.65</u> | 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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 0900 |                         | 14.51      | 21.01     | 6.75            | 0.392                             | 0.00                          | 803           | 9.4                          |          |
| 0905 |                         | 14.51      | 21.13     | 6.701           | 0.387                             | 0.00                          | 81            | 9.8                          |          |
| 0910 |                         | 14.51      | 20.10     | 7.15            | 0.393                             | 0.00                          | 66            | 10.3                         |          |
| 0915 |                         | 14.51      | 19.65     | 7.27            | 0.396                             | 0.00                          | 47            | 10.4                         |          |
| 0920 |                         | 14.51      | 19.54     | 7.35            | 0.396                             | 0.00                          | 30            | 9.7                          |          |
| 0925 |                         | 14.51      | 19.49     | 7.47            | 0.397                             | 0.00                          | 3             | 8.6                          |          |
| 0930 |                         | 14.51      | 19.45     | 7.63            | 0.399                             | 0.00                          | -19           | 8.4                          |          |
| 0935 |                         | 14.51      | 19.40     | 7.93            | 0.402                             | 0.00                          | -51           | 8.3                          |          |
| 0940 |                         | 14.51      | 19.36     | 8.60            | 0.409                             | 0.00                          | -104          | 8.4                          |          |
| 0945 |                         | 14.51      | 19.33     | 9.21            | 0.420                             | 0.00                          | -155          | 8.0                          |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID         |  | Time Collected |  | Well Inspection                                                                                                 |  |
|-------------------|--|----------------|--|-----------------------------------------------------------------------------------------------------------------|--|
| <u>CO 184-MWT</u> |  | <u>1005</u>    |  | 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<br><u>AES</u> | Comments: |
|--------------------------|-----------|



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                    |                                  |
|------------------------------------|----------------------------------|
| Well Number: <u>CO184-MWT</u>      | Project Name: <u>COA GW 2024</u> |
| Well Diameter (in): <u>2</u>       | Project Number: <u>21010210</u>  |
| Depth to Product (ft):             | Date: <u>10/01/24</u>            |
| Depth to Water (ft): <u>14.51</u>  | One Well Volume (gal):           |
| Product Thickness (ft):            | Flow Rate (mL/min) <u>400</u>    |
| Depth to Bottom (ft): <u>44.65</u> | 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 |
|-------------|-------------------------|--------------|--------------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| <u>0950</u> |                         | <u>14.51</u> | <u>19.34</u> | <u>9.38</u>     | <u>0.427</u>                      | <u>0.00</u>                   | <u>-164</u>   | <u>8.8</u>                   |          |
| <u>0955</u> |                         | <u>14.51</u> | <u>19.33</u> | <u>9.46</u>     | <u>0.432</u>                      | <u>0.00</u>                   | <u>-165</u>   | <u>8.8</u>                   |          |
| <u>1000</u> |                         | <u>14.51</u> | <u>19.32</u> | <u>9.50</u>     | <u>0.434</u>                      | <u>0.00</u>                   | <u>-162</u>   | <u>8.8</u>                   |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                                                                          |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <u>CO184-MWT</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? | Parameter                                                                                                      | Collected? | Fair: some visible cracks and/or not sloping                                                                                                             |  |
| TCL <sub>17</sub> 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,                                                                                                           |            | 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, 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<br>_____ 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  
ALJ

pH ~ 10

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CO185-MWT

Project Name: COA GW 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft):

Date: 11/10/2024

Depth to Water (ft): 13.95

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) 2.2

Depth to Bottom (ft): 41.40

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 |
|------|-------------------------|------------|-----------|----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1030 |                         | 14.00      | 14.84     | 9.48           | 0.678                             | 0.51                          | -22           | 47.4                         |          |
| 1055 |                         | 14.02      | 19.84     | 9.61           | 0.674                             | 0.00                          | -28           | 33.1                         |          |
| 1040 |                         | 14.02      | 19.84     | 9.69           | 0.671                             | 0.00                          | -34           | 32.5                         |          |
| 1045 |                         | 14.02      | 19.83     | 9.77           | 0.670                             | 0.00                          | -40           | 33.8                         |          |
|      |                         |            |           |                |                                   |                               |               |                              |          |
|      |                         |            |           |                |                                   |                               |               |                              |          |
|      |                         |            |           |                |                                   |                               |               |                              |          |
|      |                         |            |           |                |                                   |                               |               |                              |          |
|      |                         |            |           |                |                                   |                               |               |                              |          |
|      |                         |            |           |                |                                   |                               |               |                              |          |
|      |                         |            |           |                |                                   |                               |               |                              |          |
|      |                         |            |           |                |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                                                                          |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| CO185-MWT                          |            | 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                            |            |                                                                                                                |            | Unsure: 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, 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<br>_____ 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  
AES

Comments:

PH ~ 10

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CO193-MWT

Project Name: COA GW 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft):

Date: 1/19/24

Depth to Water (ft): 16.25

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) 100

Depth to Bottom (ft): 51.49

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1140 |                         | 16.31      | 20.74     | 8.52            | 1.10                              | 0.18                          | -37           | 6.0                          |          |
| 1145 |                         | 16.32      | 20.57     | 8.34            | 1.11                              | 0.27                          | -103          | 5.9                          |          |
| 1150 |                         | 16.32      | 20.47     | 8.27            | 1.11                              | 0.00                          | -135          | 5.1                          |          |
| 1155 |                         | 16.32      | 20.46     | 8.22            | 1.11                              | 0.00                          | -160          | 3                            |          |
| 1200 |                         | 16.32      | 20.54     | 8.20            | 1.11                              | 0.00                          | -175          | 3.3                          |          |
| 1205 |                         | 16.32      | 20.59     | 8.20            | 1.11                              | 0.00                          | -188          | 2.0                          |          |
| 1210 |                         | 16.32      | 20.68     | 8.20            | 1.11                              | 0.00                          | -198          | 1.0                          |          |
| 1215 |                         | 16.32      | 20.72     | 8.20            | 1.12                              | 0.00                          | -206          | 0.3                          |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                                |            | Well Inspection                                                                                                                                          |  |  |
|------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| CO193-MWT                          |            | 1220                                                                                                                          |            | 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                            |            |                                                                                                                               |            | 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" 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<br>_____ 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:<br>Sampled By <u>AZ</u>  |            |                                                                                                                               |            |                                                                                                                                                          |  |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CO18-PZM006

Project Name: COA GW 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft):

Date: 11/04/24

Depth to Water (ft): ~~12.55~~ 13.55

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) 200

Depth to Bottom (ft): 20.09

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 |
|------|-------------------------|------------|------------------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 0920 |                         | 13.7       | <del>14.50</del> | 6.12            | 2.63                              | 0.47                          | -21           | 220                          |          |
| 0925 |                         | 14.4       | 20.25            | 6.32            | 2.61                              | 0.00                          | -84           | 112                          |          |
| 0930 |                         | 14.95      | 20.55            | 6.37            | 2.61                              | 0.00                          | -94           | 86.9                         |          |
| 0935 |                         | 15.35      | 20.83            | 6.43            | 2.58                              | 0.00                          | -102          | 84.2                         |          |
|      |                         |            |                  |                 |                                   |                               |               |                              |          |
|      |                         |            |                  |                 |                                   |                               |               |                              |          |
|      |                         |            |                  |                 |                                   |                               |               |                              |          |
|      |                         |            |                  |                 |                                   |                               |               |                              |          |
|      |                         |            |                  |                 |                                   |                               |               |                              |          |
|      |                         |            |                  |                 |                                   |                               |               |                              |          |
|      |                         |            |                  |                 |                                   |                               |               |                              |          |
|      |                         |            |                  |                 |                                   |                               |               |                              |          |
|      |                         |            |                  |                 |                                   |                               |               |                              |          |
|      |                         |            |                  |                 |                                   |                               |               |                              |          |
|      |                         |            |                  |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                                |            | Well Inspection                                                                                                                                          |  |
|------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| CO18-PZM006                        |            | 940                                                                                                                           |            | 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" 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<br>_____ 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  
AZS

Product + Free floating in GW, but not detectable

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                    |                                  |
|------------------------------------|----------------------------------|
| Well Number: <u>CO194-MWS</u>      | Project Name: <u>COA GW 2024</u> |
| Well Diameter (in): <u>2</u>       | Project Number: <u>21010210</u>  |
| Depth to Product (ft):             | Date: <u>11/04/2024</u>          |
| Depth to Water (ft): <u>14.11</u>  | One Well Volume (gal):           |
| Product Thickness (ft):            | Flow Rate (mL/min)               |
| Depth to Bottom (ft): <u>29.80</u> | 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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1050 |                         | 14.12      | 20.21     | 12.99           | 8.51                              | 0.00                          | -318          | 3.9                          |          |
| 1055 |                         | 14.12      | 19.87     | 13.10           | 8.89                              | 0.00                          | -307          | 5.5                          |          |
| 1100 |                         | 14.12      | 19.75     | 13.15           | 8.00                              | 0.00                          | -304          | 5.6                          |          |
| 1105 |                         | 14.12      | 19.68     | 13.20           | 9.04                              | 0.00                          | -300          | 4.8                          |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                                |                                                                                                                 | Well Inspection                                                                                |  |
|------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|--|
| CO194-MWS                          |            | 1110                                                                                                                          |                                                                                                                 | 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                                                                                               |                                                                                                |  |
| 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" 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                                                                                                        |                                                                                                                 |                                                                                                |  |

Comments:

Sampled By  
AZS

pH > 10



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CP20-12M011

Project Name: COA GW 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft): 2

Date: 11/04/24

Depth to Water (ft): 14.06

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) 200

Depth to Bottom (ft): 25.67

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1200 |                         | 14.10      | 21.39     | 11.30           | 2.14                              | 0.72                          | -109          | 224                          |          |
| 1205 |                         | 14.11      | 21.39     | 10.75           | 2.03                              | 0.00                          | -91           | 213                          |          |
| 1210 |                         | 14.11      | 20.92     | 10.77           | 2.88                              | 0.00                          | -85           | 201                          |          |
| 1215 |                         | 14.11      | 20.77     | 10.84           | 1.80                              | 0.00                          | -87           | 260                          |          |
| 1220 |                         | 14.11      | 20.55     | 10.80           | 1.71                              | 0.00                          | -86           | 122                          |          |
| 1225 |                         | 14.11      | 20.31     | 10.72           | 1.60                              | 0.00                          | -83           | 123                          |          |
| 1230 |                         | 14.11      | 20.17     | 10.74           | 1.52                              | 0.00                          | -83           | 146                          |          |
| 1235 |                         | 14.11      | 20.03     | 10.80           | 1.34                              | 0.00                          | -86           | 147                          |          |
| 1240 |                         | 14.11      | 19.90     | 10.92           | 1.11                              | 0.00                          | -88           | 127                          |          |
| 1245 |                         | 14.11      | 19.82     | 10.04           | 1.03                              | 0.00                          | -90           | 104                          |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID   |  | Time Collected |  | Well Inspection                                                                                                 |  |
|-------------|--|----------------|--|-----------------------------------------------------------------------------------------------------------------|--|
| CP20-12M011 |  | 1200           |  | 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                                                                                           |  |
|             |  |                |  | Unsured: 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

ALY

- Speed was increased

- pH > 10



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CP20-P2M01

Project Name: COA GW 2024

Well Diameter (in): 7

Project Number: 21010210

Depth to Product (ft):

Date: 11/09/27

Depth to Water (ft): 14.00

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) 200

Depth to Bottom (ft): 25.03

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 |
|-------------|-------------------------|--------------|--------------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| <u>1250</u> |                         | <u>14.11</u> | <u>19.75</u> | <u>11.11</u>    | <u>1.00</u>                       | <u>0.10</u>                   | <u>-92</u>    | <u>77.5</u>                  |          |
| <u>1255</u> |                         | <u>14.11</u> | <u>19.72</u> | <u>11.16</u>    | <u>0.992</u>                      | <u>0.00</u>                   | <u>-94</u>    | <u>56.9</u>                  |          |
| <u>1300</u> |                         |              |              |                 |                                   |                               |               |                              |          |
| <u>1305</u> |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |
|             |                         |              |              |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                                                                          |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <u>CP20-P2M01</u>                  |            | <u>3600 1300</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                                                                                                   |            | Poor: heavily cracked                                                                                                                                    |  |
| TPH-GRO                            |            | and Cd                                                                                                         |            | Unsure: pad has been buried by site activities                                                                                                           |  |
| TPH-DRO                            |            | BTEX and                                                                                                       |            | Bolts in place                                                                                                                                           |  |
| O&G                                |            | naphthalene                                                                                                    |            | 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, 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<br>_____ 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:<br>Sampled By <u>AZJ</u> |            |                                                                                                                |            |                                                                                                                                                          |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                    |                                  |
|------------------------------------|----------------------------------|
| Well Number: <u>CO 206R-MW5</u>    | Project Name: <u>COA GW 2024</u> |
| Well Diameter (in): <u>2</u>       | Project Number: <u>21010210</u>  |
| Depth to Product (ft):             | Date: <u>11/04/24</u>            |
| Depth to Water (ft): <u>14.17</u>  | One Well Volume (gal):           |
| Product Thickness (ft):            | Flow Rate (mL/min) <u>1200</u>   |
| Depth to Bottom (ft): <u>22.43</u> | 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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1345 |                         | 14.19      | 19.67     | 11.43           | 2.61                              | 165                           | -108          | 42.4                         |          |
| 1350 |                         | 14.20      | 19.19     | 11.49           | 2.67                              | 0.00                          | -167          | 41.4                         |          |
| 1355 |                         | 14.20      | 19.08     | 11.53           | 2.64                              | 0.00                          | -177          | 20.0                         |          |
| 1400 |                         | 14.26      | 19.05     | 11.52           | 2.60                              | 0.00                          | -182          | 12.5                         |          |
| 14   |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                                             |            | Time Collected                                                                                                 |            | Well Inspection                                                                                                                                          |  |
|-------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <u>CO206R-MW5</u>                                     |            | <u>1405</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                                                                                           |            | Unsure: pad has been buried by site activities                                                                                                           |  |
| O&G                                                   |            |                                                                                                                |            | Bolts in place                                                                                                                                           |  |
| Total Cyanide                                         |            | VOC,                                                                                                           |            | Bolts are missing                                                                                                                                        |  |
| TCL SVOCs                                             |            | 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<br>_____ 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: <u>PH &gt; 10</u><br>Sampled By: <u>AZS</u> |            |                                                                                                                |            |                                                                                                                                                          |  |

| Low Flow Sampling<br>Purge Log                |                         |                                                                                                                               |                                                                                                                                                         |                                                                                                |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                               |               |                              |          |  |
|-----------------------------------------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|------------------------------|----------|--|
| Well Number: <u>Central Observation Point</u> |                         |                                                                                                                               |                                                                                                                                                         |                                                                                                | Project Name: <u>COA GW 2024</u>                                                                                                                    |                               |               |                              |          |  |
| Well Diameter (in): <u>4</u>                  |                         |                                                                                                                               |                                                                                                                                                         |                                                                                                | Project Number: <u>21010210</u>                                                                                                                     |                               |               |                              |          |  |
| Depth to Product (ft):                        |                         |                                                                                                                               |                                                                                                                                                         |                                                                                                | Date: <u>11/05/24</u>                                                                                                                               |                               |               |                              |          |  |
| Depth to Water (ft): <u>12.91</u>             |                         |                                                                                                                               |                                                                                                                                                         |                                                                                                | One Well Volume (gal):                                                                                                                              |                               |               |                              |          |  |
| Product Thickness (ft):                       |                         |                                                                                                                               |                                                                                                                                                         |                                                                                                | Flow Rate (ml/min) <u>2.00</u>                                                                                                                      |                               |               |                              |          |  |
| Depth to Bottom (ft): <u>18.67</u>            |                         |                                                                                                                               |                                                                                                                                                         |                                                                                                | 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 |  |
| 0925                                          |                         | 12.91                                                                                                                         | 18.17                                                                                                                                                   | 11.76                                                                                          | 1.55                                                                                                                                                | 0.00                          | -332          | 6.6                          |          |  |
| 0930                                          |                         | 12.91                                                                                                                         | 18.22                                                                                                                                                   | 11.79                                                                                          | 1.56                                                                                                                                                | 0.00                          | -342          | 5.9                          |          |  |
| 0935                                          |                         | 12.91                                                                                                                         | 18.32                                                                                                                                                   | 11.81                                                                                          | 1.55                                                                                                                                                | 0.00                          | -354          | 5.0                          |          |  |
| 0940                                          |                         | 12.91                                                                                                                         | 18.51                                                                                                                                                   | 11.83                                                                                          | 1.53                                                                                                                                                | 0.00                          | -361          | 4.1                          |          |  |
| 0945                                          |                         | 12.91                                                                                                                         | 18.73                                                                                                                                                   | 11.84                                                                                          | 1.53                                                                                                                                                | 0.00                          | -381          | 4.0                          |          |  |
| 0950                                          |                         | 12.91                                                                                                                         | 18.88                                                                                                                                                   | 11.86                                                                                          | 1.53                                                                                                                                                | 0.00                          | -391          | 0.6                          |          |  |
| 0955                                          |                         | 12.91                                                                                                                         | 19.04                                                                                                                                                   | 11.89                                                                                          | 1.53                                                                                                                                                | 0.00                          | -400          | 0.2                          |          |  |
| 1000                                          |                         |                                                                                                                               |                                                                                                                                                         |                                                                                                |                                                                                                                                                     |                               |               |                              |          |  |
|                                               |                         |                                                                                                                               |                                                                                                                                                         |                                                                                                |                                                                                                                                                     |                               |               |                              |          |  |
|                                               |                         |                                                                                                                               |                                                                                                                                                         |                                                                                                |                                                                                                                                                     |                               |               |                              |          |  |
|                                               |                         |                                                                                                                               |                                                                                                                                                         |                                                                                                |                                                                                                                                                     |                               |               |                              |          |  |
|                                               |                         |                                                                                                                               |                                                                                                                                                         |                                                                                                |                                                                                                                                                     |                               |               |                              |          |  |
|                                               |                         |                                                                                                                               |                                                                                                                                                         |                                                                                                |                                                                                                                                                     |                               |               |                              |          |  |
| SAMPLE RECORD AND WELL DETAILS                |                         |                                                                                                                               |                                                                                                                                                         |                                                                                                |                                                                                                                                                     |                               |               |                              |          |  |
| Sample ID                                     |                         | Time Collected                                                                                                                |                                                                                                                                                         | Well Inspection                                                                                |                                                                                                                                                     |                               |               |                              |          |  |
| C0116 Central OP                              |                         | 10:00                                                                                                                         |                                                                                                                                                         | 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" 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<br>_____ 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 <u>A23</u>                         |                         | Comments: <u>pH &gt; 10</u>                                                                                                   |                                                                                                                                                         |                                                                                                |                                                                                                                                                     |                               |               |                              |          |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CO212-MWS

Project Name: COA GW 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft):

Date: 11/05/24

Depth to Water (ft): 13.82

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (ml/min) 260

Depth to Bottom (ft): 22.78

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1035 |                         | 13.84      | 20.90     | 12.42           | 2.80                              | 0.00                          | -321          | 13.3                         |          |
| 1040 |                         | 13.84      | 20.80     | 12.44           | 2.82                              | 0.00                          | -375          | 10.00                        |          |
| 1045 |                         | 13.84      | 20.74     | 12.46           | 2.84                              | 0.00                          | -407          | 9.2                          |          |
| 1050 |                         | 13.84      | 20.67     | 12.47           | 2.85                              | 0.00                          | -425          | 8.1                          |          |
| 1055 |                         | 13.84      | 20.52     | 12.49           | 2.84                              | 0.00                          | -440          | 8.3                          |          |
| 1100 |                         | 13.84      | 20.59     | 12.49           | 2.85                              | 0.00                          | -449          | 8.13                         |          |
| 1105 |                         | 13.84      | 20.77     | 12.48           | 2.85                              | 0.00                          | -488          | 0.8                          |          |
| 1110 |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                      |            | Well Inspection                                                                                         |  |
|------------------------------------|------------|-----------------------------------------------------|------------|---------------------------------------------------------------------------------------------------------|--|
| CO212-MWS                          |            | 1110                                                |            | 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.                                                |            | 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, Chloride, Turbidity, TDS. |            | 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                |            | Specific Conductance                                |            | 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>AZJ</u>             |            |                                                     |            | Well permit is present                                                                                  |  |
| - PH 710                           |            |                                                     |            |                                                                                                         |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CO05A-P2M

Project Name: COA GW 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft): 10

Date: 11/05/24

Depth to Water (ft): 14.05

One Well Volume (gal):

Product Thickness (ft): 4.75

Flow Rate (ml/min) 200

Depth to Bottom (ft): 21.25

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 |
|------|-------------------------|------------|-----------|---------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1155 |                         | 14.10      | 22.04     | 8.08          | 1.14                              | 0.00                          | -289          | 3.0                          |          |
| 1200 |                         | 14.10      | 21.65     | 8.84          | 1.33                              | 0.00                          | -296          | 8.0                          |          |
| 1205 |                         | 14.10      | 21.45     | 8.21          | 1.50                              | 0.00                          | -315          | 8.3                          |          |
| 1210 |                         | 14.10      | 21.44     | 8.66          | 1.67                              | 0.00                          | -344          | 6.4                          |          |
| 1215 |                         | 14.10      | 21.65     | 8.93          | 1.80                              | 0.00                          | -363          | 3.6                          |          |
| 1220 |                         | 14.10      | 21.56     | 8.03          | 1.89                              | 0.00                          | -364          | 1.4                          |          |
| 1225 |                         | 14.10      | 21.36     | 9.06          | 1.95                              | 0.00                          | -370          | 1.1                          |          |
| 1230 |                         | 14.10      | 21.21     | 9.01          | 2.01                              | 0.00                          | -372          | 1.0                          |          |
|      |                         |            |           |               |                                   |                               |               |                              |          |
|      |                         |            |           |               |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

|                                    |            |                                                                                                                               |            |                                                                                                                                |  |
|------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------|--|
| Sample ID                          |            | Time Collected                                                                                                                |            | Well Inspection                                                                                                                |  |
| CO05A-P2M                          |            | 1235                                                                                                                          |            | 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                                                                                                          |            | 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<br>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: <u>AZ</u>              |            |                                                                                                                               |            |                                                                                                                                |  |



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: **CO59-PZ0002**

Project Name: **COA GW 2024**

Well Diameter (in): **2**

Project Number: **21010210**

Depth to Product (ft):

Date: **11/19/2024**

Depth to Water (ft): **16.19**

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (ml/min): **20**

Depth to Bottom (ft): **19.02**

Length of time Purged (min):

## PURGING RECORD

| Time | Volume Purged (gallons) | D/W (feet) | Temp (°C) | pH (unit) ± 0.1 | Specific Conductance (ms/cm) ± 3% | Dissolved Oxygen (mg/L) ± 0.3 | ORP (mV) ± 10 | Turbidity (NTU) ± 10% or 5 | Comments |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|----------------------------|----------|
| 1115 |                         | 16.18      | 17.52     | 11.36           | 2.16                              | 0.00                          | -96           | 5.6                        |          |
| 1120 |                         | 16.18      | 17.63     | 11.12           | 2.03                              | 0.00                          | -90           | 10.0                       |          |
| 1125 |                         | 16.18      | 17.75     | 11.08           | 2.93                              | 0.00                          | -84           | 4.6                        |          |
| 1130 |                         | 16.18      | 17.85     | 11.06           | 1.89                              | 0.00                          | -81           | 2.0                        |          |
| 1135 |                         | 16.18      | 17.90     | 11.26           | 1.89                              | 0.00                          | -84           | 0.5                        |          |
| 1140 |                         | 16.18      | 17.90     | 11.44           | 1.91                              | 0.00                          | -89           | 0.0                        |          |
| 1145 |                         | 16.18      | 17.99     | 11.53           | 1.92                              | 0.00                          | -92           | 0.0                        |          |
| 1150 |                         | 16.18      | 17.93     | 11.63           | 1.93                              | 0.00                          | -95           | 0.0                        |          |
|      |                         |            |           |                 |                                   |                               |               |                            |          |
|      |                         |            |           |                 |                                   |                               |               |                            |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                        |            | Well Inspection                                                                                        |  |
|------------------------------------|------------|---------------------------------------|------------|--------------------------------------------------------------------------------------------------------|--|
| CO59-PZ0002                        |            | 1155                                  |            | 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                          |            | Poor: heavily cracked                                                                                  |  |
| TPH-GRO                            |            | and Cd                                |            | Unsure: pad has been buried by site activities                                                         |  |
| TPH-DRO                            |            | BTEX and                              |            | Bolts in place                                                                                         |  |
| O&G                                |            | naphthalene                           |            | 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                       |            | Specific                              |            | Well is broken and is not able to be used                                                              |  |
| Duplicate                          |            | Conductance                           |            | Well is blocked and is not able to be used                                                             |  |
| Sampled By                         |            |                                       |            | Well permit is present                                                                                 |  |
|                                    |            |                                       |            | Comments:                                                                                              |  |



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                    |                                  |
|------------------------------------|----------------------------------|
| Well Number: <u>CO25-PCM008</u>    | Project Name: <u>COA GW 2024</u> |
| Well Diameter (in): <u>2</u>       | Project Number: <u>21010210</u>  |
| Depth to Product (ft):             | Date: <u>11/19/2024</u>          |
| Depth to Water (ft): <u>15.59</u>  | One Well Volume (gal):           |
| Product Thickness (ft):            | Flow Rate (ml/min): <u>200</u>   |
| Depth to Bottom (ft): <u>23.59</u> | Length of time Purged (min):     |

## PURGING RECORD

| Time | Volume Purged (gallons) | D/W (feet) | Temp (C) | pH (SU) (0-14) | Specific Conductance (mcsm) (0-3000) | Dissolved Oxygen (mg/L) (0-15) | ORP (mV) (-100 to 100) | Turbidity (NTU) (0-5) | Comments |
|------|-------------------------|------------|----------|----------------|--------------------------------------|--------------------------------|------------------------|-----------------------|----------|
| 1335 |                         | 15.59      | 17.10    | 11.17          | 3.06                                 | 0.00                           | -149                   | 48.5                  |          |
| 1340 |                         | 15.59      | 17.05    | 11.25          | 3.01                                 | 0.00                           | -174                   | 34.6                  |          |
| 1345 |                         | 15.59      | 17.17    | 11.31          | 2.89                                 | 0.00                           | -182                   | 19.6                  |          |
| 1350 |                         | 15.59      | 17.21    | 11.34          | 2.85                                 | 0.00                           | -187                   | 9.6                   |          |
| 1355 |                         | 15.59      | 17.36    | 11.36          | 2.83                                 | 0.00                           | -191                   | 5.4                   |          |
|      |                         |            |          |                |                                      |                                |                        |                       |          |
|      |                         |            |          |                |                                      |                                |                        |                       |          |
|      |                         |            |          |                |                                      |                                |                        |                       |          |
|      |                         |            |          |                |                                      |                                |                        |                       |          |
|      |                         |            |          |                |                                      |                                |                        |                       |          |
|      |                         |            |          |                |                                      |                                |                        |                       |          |
|      |                         |            |          |                |                                      |                                |                        |                       |          |
|      |                         |            |          |                |                                      |                                |                        |                       |          |

## SAMPLE RECORD AND WELL DETAILS

|                                    |            |                                                                                                                |            |                                                                                                      |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------------------------|--|
| Sample ID<br><u>CO25-PCM008</u>    |            | Time Collected<br><u>1400</u>                                                                                  |            | 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                            |            | BTEN and naphthalene                                                                                           |            | Unclear: pad has been buried by site activities                                                      |  |
| TPH-DRO                            |            |                                                                                                                |            | 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, 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 |  |
| 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                                                           |  |
| Sampled By<br><u>A23</u>           |            | Comments:                                                                                                      |            |                                                                                                      |  |

**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Project Name: COA GW 2024

Project Number: 21010210

Date: 11/19/2024

One Well Volume (gal):

Flow Rate (ml./min) *W*

Length of time Purged (min)

## PURGING RECORD

[illegible]

### SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                                |            | Well Inspection                                                                                      |  |
|------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------------------------|--|
| C055-PZM 00                        |            |                                                                                                                               |            | 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, LAL 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                                       |  |
| LAL Metals and Mercury (total)     |            |                                                                                                                               |            | Well Condition                                                                                       |  |
| LAL Metals and Mercury (dissolved) |            |                                                                                                                               |            | Casing Volume: 1" ID = 0.041 gal/ft, 2" ID = 0.163 gal/ft, 3" ID = 0.653 gal/ft, 6" ID = 1.47 gal/ft |  |
| 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  
AZC

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: **CO196-MWE**

Project Name: **COA GW 2024**

Well Diameter (in): **2**

Project Number: **21010210**

Depth to Product (ft): **—**

Date: **12/13/24**

Depth to Water (ft): **14.22**

One Well Volume (gal):

Product Thickness (ft): **—**

Flow Rate (ml/min)

Depth to Bottom (ft):

Length of time Purged (min)

## PURGING RECORD

| Time  | Volume Purged (gallons) | DTW (feet) | Temp (C) | pH (± 0.1) | Specific Conductance (µmS/cm) (± 3%) | Dissolved Oxygen (mg/L) (± 0.3) | ORP (mV) (± 10) | Turbidity (NTU) (± 10% or ± 5 %) | Comments |
|-------|-------------------------|------------|----------|------------|--------------------------------------|---------------------------------|-----------------|----------------------------------|----------|
| 11:35 |                         | 14.24      | 11.84    | 12.59      | 2.98                                 | 2.09                            | -219            | 19.1                             |          |
| 11:40 |                         |            | 11.95    | 12.65      | 3.11                                 | 1.14                            | -233            | 43.4                             |          |
| 11:45 |                         | 14.24      | 12.08    | 12.69      | 3.20                                 | 1.28                            | -241            | 15.7                             |          |
| 11:50 |                         |            | 12.15    | 12.70      | 3.22                                 | 1.18                            | -242            | 6.7                              |          |
| 11:55 |                         |            | 12.20    | 12.70      | 3.22                                 | 1.15                            | -244            | 3.1                              |          |
|       |                         |            |          |            |                                      |                                 |                 |                                  |          |
|       |                         |            |          |            |                                      |                                 |                 |                                  |          |
|       |                         |            |          |            |                                      |                                 |                 |                                  |          |
|       |                         |            |          |            |                                      |                                 |                 |                                  |          |
|       |                         |            |          |            |                                      |                                 |                 |                                  |          |
|       |                         |            |          |            |                                      |                                 |                 |                                  |          |
|       |                         |            |          |            |                                      |                                 |                 |                                  |          |
|       |                         |            |          |            |                                      |                                 |                 |                                  |          |
|       |                         |            |          |            |                                      |                                 |                 |                                  |          |
|       |                         |            |          |            |                                      |                                 |                 |                                  |          |
|       |                         |            |          |            |                                      |                                 |                 |                                  |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                        |            | Well Inspection                                                                                        |   |
|------------------------------------|------------|---------------------------------------|------------|--------------------------------------------------------------------------------------------------------|---|
| CO196-MWE                          |            | 1200                                  |            | 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                                                                 | X |
| 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                                                                                         | X |
| 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                       |            | 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: <b>SKL</b>             |            |                                       |            | Cap is present                                                                                         |   |
|                                    |            |                                       |            | Well permit is present                                                                                 |   |
| Comments:                          |            |                                       |            |                                                                                                        |   |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: **CO201-MW3**

Project Name: **COA GW 2024**

Well Diameter (in): **2**

Project Number: **21010210**

Depth to Product (ft): **—**

Date:

Depth to Water (ft): **13.89**

One Well Volume (gal):

Product Thickness (ft): **—**

Flow Rate (ml/min):

Depth to Bottom (ft):

Length of time Purged (min):

## PURGING RECORD

| Time | Volume Purged (gallons) | DTW (feet) | Temp (C) | pH (±0.1) | Specific Conductance (µmhos/cm) (±3%) | Dissolved Oxygen (mg/L) (±0.3) | ORP (mV) (±10) | Turbidity (NTU) (±10% at 5) | Comments |
|------|-------------------------|------------|----------|-----------|---------------------------------------|--------------------------------|----------------|-----------------------------|----------|
| 1100 |                         | 14.24      | 12.20    | 12.05     | 4.79                                  | 0.00                           | -167           | 5.3                         |          |
| 1105 |                         | 14.22      | 12.35    | 12.04     | 4.78                                  | 0.00                           | -185           | 0.7                         |          |
| 1110 |                         |            | 12.38    | 12.04     | 4.82                                  | 0.00                           | -189           | 1.6                         |          |
| 1115 |                         | 14.24      | 12.40    | 12.05     | 4.81                                  | 0.00                           | -192           | 0.5                         |          |
|      |                         |            |          |           |                                       |                                |                |                             |          |
|      |                         |            |          |           |                                       |                                |                |                             |          |
|      |                         |            |          |           |                                       |                                |                |                             |          |
|      |                         |            |          |           |                                       |                                |                |                             |          |
|      |                         |            |          |           |                                       |                                |                |                             |          |
|      |                         |            |          |           |                                       |                                |                |                             |          |
|      |                         |            |          |           |                                       |                                |                |                             |          |
|      |                         |            |          |           |                                       |                                |                |                             |          |
|      |                         |            |          |           |                                       |                                |                |                             |          |
|      |                         |            |          |           |                                       |                                |                |                             |          |
|      |                         |            |          |           |                                       |                                |                |                             |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                        |            | Well Inspection                                                                                        |  |
|------------------------------------|------------|---------------------------------------|------------|--------------------------------------------------------------------------------------------------------|--|
| C0201-MW3                          |            | 1120                                  |            | 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                      |            | VOC,                                  |            | Well Casing Condition                                                                                  |  |
| TCL SVOCs                          |            | SVOC, LAL                             |            | Casing is free from damage and visibly marked with the Well ID                                         |  |
| LAL Metals and Mercury (total)     |            | Metals and mercury, Sulfate, Nitrate, |            | Well Condition                                                                                         |  |
| LAL 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,                           |            | Well is structurally sound: not bent, broken, and no blockage identified                               |  |
| PCB                                |            | Chloride,                             |            | Well is bent or broken but is able to be used                                                          |  |
| Matrix Spike                       |            | Turbidity,                            |            | Well is broken and is not able to be used                                                              |  |
| Duplicate                          |            | TDS,                                  |            | Well is blocked and is not able to be used                                                             |  |
|                                    |            | Specific Conductance                  |            | Cap is present                                                                                         |  |
|                                    |            |                                       |            | Well permit is present                                                                                 |  |
| Sampled By                         |            | Comments:                             |            |                                                                                                        |  |
| SM4                                |            | PH > 10                               |            |                                                                                                        |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CO198-MWS

Project Name: COA GW 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft): —

Date: 12/13/24

Depth to Water (ft): 14.92

One Well Volume (gal):

Product Thickness (ft): —

Flow Rate (ml/min)

Depth to Bottom (ft):

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 0955 |                         |            | 17.82     | 12.91           | 11.1                              | 8.44                          | -241          | 0.0                          |          |
| 1000 |                         | 14.93      | 17.25     | 12.93           | 11.2                              | 8.14                          | -249          | 0.7                          |          |
| 1005 |                         |            | 16.95     | 12.94           | 11.3                              | 7.99                          | -253          | 0.5                          |          |
| 1010 |                         | 14.95      | 16.32     | 12.98           | 11.5                              | 7.69                          | -258          | 0.3                          |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                                |                                     | Well Inspection                                                                                                                                  |  |
|------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|--|
| CO198-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?                          | 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 <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" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft<br>_____ 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                                                                                                                           |  |

Sampled By  
SHL

Comments:

PH > 10

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

|                                   |                                  |
|-----------------------------------|----------------------------------|
| Well Number: <b>COP4-MWE</b>      | Project Name: <b>COA GW 2024</b> |
| Well Diameter (in): <b>2</b>      | Project Number: <b>21010210</b>  |
| Depth to Product (ft):            | Date: <b>12/13/24</b>            |
| Depth to Water (ft): <b>14.43</b> | One Well Volume (gal):           |
| Product Thickness (ft):           | Flow Rate (ml/min):              |
| Depth to Bottom (ft):             | Length of time Purged (min):     |

## PURGING RECORD

| Time | Volume Purged (gallons) | D/W (feet) | Temp (C) | pH (S.U.) ± 0.1 | Specific Conductance (µm/cm) ± 3% | Dissolved Oxygen (mg/L) ± 0.3 | ORP (mV) ± 10 | Turbidity (NTU) ± 10% or 5 | Comments |
|------|-------------------------|------------|----------|-----------------|-----------------------------------|-------------------------------|---------------|----------------------------|----------|
| 1055 |                         |            | 14.67    | 13.05           | 8.44                              | 3.42                          | -150          | 3.0                        |          |
| 1100 |                         | 14.43      | 14.58    | 13.11           | 8.67                              | 2.76                          | -173          | 2.4                        |          |
| 1105 |                         |            | 14.78    | 13.15           | 9.28                              | 2.17                          | -194          | 2.5                        |          |
| 1110 |                         |            | 14.96    | 13.18           | 9.54                              | 2.18                          | -209          | 2.3                        |          |
| 1115 |                         | 14.43      | 14.90    | 13.20           | 9.82                              | 0.00                          | -218          | 1.9                        |          |
| 1120 |                         |            | 14.85    | 13.22           | 9.96                              | 0.00                          | -220          | 1.6                        |          |
| 1125 |                         | 14.42      | 14.84    | 13.24           | 10.10                             | 0.00                          | -221          | 1.3                        |          |
| 1130 |                         |            | 14.80    | 13.24           | 10.20                             | 0.00                          | -222          | 1.1                        |          |
| 1135 |                         | 14.43      | 14.70    | 13.25           | 10.20                             | 0.00                          | -223          | 3.9                        |          |
| 1140 |                         |            | 14.89    | 13.26           | 10.20                             | 0.00                          | -223          | 1.2                        |          |

## SAMPLE RECORD AND WELL DETAILS

|                                    |            |                                                                                                        |            |                                                                                                |  |
|------------------------------------|------------|--------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------------------|--|
| Sample ID                          |            | Time Collected                                                                                         |            | Well Inspection                                                                                |  |
| C0194-MWS                          |            | 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? | 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                            |            | BTX 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" 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                               |            |                                                                                                |  |
| 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                                                                                 |  |
|                                    |            |                                                                                                        |            | Well permit is present                                                                         |  |
| Sampled By: <b>SKL</b>             |            | PH > 10                                                                                                |            |                                                                                                |  |





## Engineers and Scientists

Project Name: COA GW 2024

Project Number: 21010210

Date: \_\_\_\_\_

One Well Volume (gal):

Flow Rate (ml/min)

Length of time Purged (min)

[illegible]

|                                    |            |                                       |            |                                                                                                         |  |
|------------------------------------|------------|---------------------------------------|------------|---------------------------------------------------------------------------------------------------------|--|
| Sample ID                          |            | Time Collected                        |            | Well Inspection                                                                                         |  |
| C082-MW#                           |            | 1505                                  |            | 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                          |            | Poor: heavily cracked                                                                                   |  |
| TPH-GRO                            |            | and Cd                                |            | Unsure: pad has been buried by site activities                                                          |  |
| TPH-DRO                            |            | BTEX and                              | X          | Bolts in place                                                                                          |  |
| O&G                                |            | naphthalene                           |            | Bolts are missing                                                                                       |  |
| Total Cyanide                      |            | VOC                                   |            | Well Casing Condition                                                                                   |  |
| TCL SVOCs                          |            | SVOC, TAI                             |            | Casing is free from damage and visibly marked with the Well ID                                          |  |
| TAI Metals and Mercury (total)     |            | Metals and mercury, Sulfate, Nitrate, |            | Well Condition                                                                                          |  |
| TAI 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 = 1.57 gal/ft |  |
| Hexavalent Chromium                |            | Alkalinity, Chloride,                 |            | Well is structurally sound, not bent, broken, and no blockage identified                                |  |
| PCB                                |            | Turbidity,                            |            | Well is bent or broken but is able to be used                                                           |  |
| Matrix Spike                       |            | TDS,                                  |            | Well is broken and is not able to be used                                                               |  |
| Duplicate                          |            | Specific Conductance                  |            | Well is blocked and is not able to be used                                                              |  |
|                                    |            |                                       |            | Cap is present                                                                                          |  |
|                                    |            |                                       |            | Well permit is present                                                                                  |  |

Sampled By

Comments:

PHX 10

BVL

| Low Flow Sampling<br>Purge Log     |                         |                                                                                                                |            |                                                                                                        |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                               |               |                              |          |
|------------------------------------|-------------------------|----------------------------------------------------------------------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------|------------------------------|----------|
| Well Number: <b>CO186-MWS</b>      |                         |                                                                                                                |            |                                                                                                        | Project Name: <b>COA GW 2024</b>                                                                                                                    |                               |               |                              |          |
| Well Diameter (in): <b>2</b>       |                         |                                                                                                                |            |                                                                                                        | Project Number: <b>21010210</b>                                                                                                                     |                               |               |                              |          |
| Depth to Product (ft): <b>—</b>    |                         |                                                                                                                |            |                                                                                                        | Date: <b>—</b>                                                                                                                                      |                               |               |                              |          |
| Depth to Water (ft): <b>15.15</b>  |                         |                                                                                                                |            |                                                                                                        | One Well Volume (gal): <b>—</b>                                                                                                                     |                               |               |                              |          |
| Product Thickness (ft): <b>—</b>   |                         |                                                                                                                |            |                                                                                                        | Flow Rate (ml/min): <b>—</b>                                                                                                                        |                               |               |                              |          |
| Depth to Bottom (ft): <b>20.82</b> |                         |                                                                                                                |            |                                                                                                        | Length of time Purged (min): <b>—</b>                                                                                                               |                               |               |                              |          |
| PURGING RECORD                     |                         |                                                                                                                |            |                                                                                                        |                                                                                                                                                     |                               |               |                              |          |
| Time                               | Volume Purged (gallons) | D/W (feet)                                                                                                     | Temp (°C)  | pH (S.U.) ± 0.1                                                                                        | Specific Conductance (µmS/cm) ± 3%                                                                                                                  | Dissolved Oxygen (mg/L) ± 0.3 | ORP (mV) ± 10 | Turbidity (NTU) ± 10% or ± 5 | Comments |
| 1345                               |                         |                                                                                                                | 15.11      | 7.94                                                                                                   | 1.08                                                                                                                                                | 0.00                          | -336          | 10.0                         |          |
| 1350                               |                         | 15.28                                                                                                          | 14.61      | 7.99                                                                                                   | 1.09                                                                                                                                                | 0.00                          | -342          | 11.3                         |          |
| 1355                               |                         | 15.28                                                                                                          | 14.00      | 8.18                                                                                                   | 1.10                                                                                                                                                | 9.40                          | -351          | 7.8                          |          |
| 1400                               |                         |                                                                                                                | 13.94      | 8.24                                                                                                   | 1.10                                                                                                                                                | 9.67                          | -354          | 6.4                          |          |
| 1405                               |                         |                                                                                                                | 13.80      | 8.40                                                                                                   | 1.10                                                                                                                                                | 10.18                         | -357          | 5.7                          |          |
| 1410                               |                         |                                                                                                                | 13.74      | 8.53                                                                                                   | 1.11                                                                                                                                                | 10.14                         | -362          | 4.4                          |          |
| 1415                               |                         |                                                                                                                | 13.70      | 8.52                                                                                                   | 1.11                                                                                                                                                | 10.20                         | -362          | 4.3                          |          |
|                                    |                         |                                                                                                                |            |                                                                                                        |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                                                                                                |            |                                                                                                        |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                                                                                                |            |                                                                                                        |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                                                                                                |            |                                                                                                        |                                                                                                                                                     |                               |               |                              |          |
|                                    |                         |                                                                                                                |            |                                                                                                        |                                                                                                                                                     |                               |               |                              |          |
| SAMPLE RECORD AND WELL DETAILS     |                         |                                                                                                                |            |                                                                                                        |                                                                                                                                                     |                               |               |                              |          |
| Sample ID                          |                         | Time Collected                                                                                                 |            | Well Inspection                                                                                        |                                                                                                                                                     |                               |               |                              |          |
| <b>CO186-MWS</b>                   |                         | <b>1420</b>                                                                                                    |            | 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                            |                         |                                                                                                                |            | Unclear: pad has been buried by site activities                                                        |                                                                                                                                                     |                               |               |                              |          |
| TPH-DRO                            |                         | BTEX and naphthalene                                                                                           | <b>X</b>   | Bolts in place                                                                                         |                                                                                                                                                     |                               |               |                              |          |
| O&G                                |                         |                                                                                                                |            | Bolts are missing                                                                                      |                                                                                                                                                     |                               |               |                              |          |
| Total Cyanide                      |                         | VOC                                                                                                            |            | Well Casing Condition                                                                                  |                                                                                                                                                     |                               |               |                              |          |
| TCL SVOCS                          |                         | SVOC, TAI                                                                                                      |            | Casing is free from damage and visibly marked with the Well ID                                         |                                                                                                                                                     |                               |               |                              |          |
| TAI Metals and Mercury (total)     |                         | Metals and mercury, Sulfate, Nitrate, Ammonia (OD), Alkalinity, Chloride, Turbidity, TDS, Specific Conductance |            | Well Condition                                                                                         |                                                                                                                                                     |                               |               |                              |          |
| TAI Metals and Mercury (dissolved) |                         |                                                                                                                |            | Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 3" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft |                                                                                                                                                     |                               |               |                              |          |
| 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:                                                                                                      |            |                                                                                                        |                                                                                                                                                     |                               |               |                              |          |
| <b>SKL</b>                         |                         |                                                                                                                |            |                                                                                                        |                                                                                                                                                     |                               |               |                              |          |

Well Number: C093-P2M

Project Name: COA GW 2024

Well Diameter (in)

Project Number: 21010210

Depth to Product (ft):

Date: \_\_\_\_\_

Depth to Water (ft)

One Well Volume (gal):

Product Thickness (ft)

Flow Rate (ml/min)

Depth to Bottom (ft):

Length of time Purged (min)

### PURGING RECORD

[illegible]

### SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                        |            | Well Inspection                                                                                         |  |
|------------------------------------|------------|---------------------------------------|------------|---------------------------------------------------------------------------------------------------------|--|
|                                    |            | 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                            |            |                                       |            | Unsure: 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,                         |            | 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,                 |            | Well is structurally sound; not bent, broken, and no blockage identified                                |  |
| PCB                                |            | Turbidity,                            |            | Well is bent or broken but is able to be used                                                           |  |
| Matrix Spike                       |            | TDS,                                  |            | Well is broken and is not able to be used                                                               |  |
| Duplicate                          |            | Specific Conductance                  |            | Well is blocked and is not able to be used                                                              |  |
|                                    |            |                                       |            | Cap is present                                                                                          |  |
|                                    |            |                                       |            | Well permit is present                                                                                  |  |

Comments:

Sampled By

| Low Flow Sampling<br>Purge Log     |                         |                                                                                                                                                                |            |                                                                                                                                     |  <b>ARM Group<br/>Enterprises LLC</b><br>Engineers and Scientists |                                |                |                            |          |
|------------------------------------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------|----------------------------|----------|
| Well Number: <b>0093-PZM</b>       |                         |                                                                                                                                                                |            |                                                                                                                                     | Project Name: <b>COA GW 2024</b>                                                                                                                    |                                |                |                            |          |
| Well Diameter (in): <b>2</b>       |                         |                                                                                                                                                                |            |                                                                                                                                     | Project Number: <b>21010210</b>                                                                                                                     |                                |                |                            |          |
| Depth to Product (ft): <b>—</b>    |                         |                                                                                                                                                                |            |                                                                                                                                     | Date: <b>12/10/24</b>                                                                                                                               |                                |                |                            |          |
| Depth to Water (ft): <b>11.44</b>  |                         |                                                                                                                                                                |            |                                                                                                                                     | One Well Volume (gal):                                                                                                                              |                                |                |                            |          |
| Product Thickness (ft): <b>—</b>   |                         |                                                                                                                                                                |            |                                                                                                                                     | Flow Rate (ml/min):                                                                                                                                 |                                |                |                            |          |
| Depth to Bottom (ft): <b>19.49</b> |                         |                                                                                                                                                                |            |                                                                                                                                     | Length of time Purged (min):                                                                                                                        |                                |                |                            |          |
| PURGING RECORD                     |                         |                                                                                                                                                                |            |                                                                                                                                     |                                                                                                                                                     |                                |                |                            |          |
| Time                               | Volume Purged (gallons) | DLW (feet)                                                                                                                                                     | Temp (°C)  | pH (±0.1)                                                                                                                           | Specific Conductance (µmhos/cm) (±3%)                                                                                                               | Dissolved Oxygen (mg/L) (±0.3) | ORP (mV) (±10) | Turbidity (NTU) (10% or 5) | Comments |
| 1105                               |                         | 12.46                                                                                                                                                          | 16.03      | 7.57                                                                                                                                | 0.844                                                                                                                                               | 8.98                           | -70            | 8.3                        |          |
| 1110                               |                         | 12.47                                                                                                                                                          | 16.05      | 7.76                                                                                                                                | 0.826                                                                                                                                               | 8.79                           | -139           | 4.4                        |          |
| 1115                               |                         |                                                                                                                                                                | 15.97      | 7.95                                                                                                                                | 0.815                                                                                                                                               | 8.86                           | -217           | 4.9                        |          |
| 1120                               |                         | 12.51                                                                                                                                                          | 15.96      | 8.45                                                                                                                                | 0.824                                                                                                                                               | 8.43                           | -301           | 7.5                        |          |
| 1125                               |                         | 12.51                                                                                                                                                          | 16.08      | 9.29                                                                                                                                | 0.862                                                                                                                                               | 7.02                           | -371           | 8.8                        |          |
| 1130                               |                         |                                                                                                                                                                | 16.00      | 9.51                                                                                                                                | 0.878                                                                                                                                               | 6.28                           | -387           | 8.3                        |          |
| 1135                               |                         |                                                                                                                                                                | 15.91      | 10.02                                                                                                                               | 0.929                                                                                                                                               | 5.15                           | -413           | 8.0                        |          |
| 1140                               |                         |                                                                                                                                                                | 15.85      | 10.83                                                                                                                               | 0.955                                                                                                                                               | 3.87                           | -437           | 9.1                        |          |
| 1145                               |                         | 12.52                                                                                                                                                          | 15.87      | 10.49                                                                                                                               | 0.977                                                                                                                                               | 8.60                           | -445           | 11.1                       |          |
| 1150                               |                         |                                                                                                                                                                | 15.83      | 11.01                                                                                                                               | 1.04                                                                                                                                                | 7.60                           | -477           | 12.3                       |          |
| SAMPLE RECORD AND WELL DETAILS     |                         |                                                                                                                                                                |            |                                                                                                                                     |                                                                                                                                                     |                                |                |                            |          |
| Sample ID                          |                         | Time Collected                                                                                                                                                 |            | Well Inspection                                                                                                                     |                                                                                                                                                     |                                |                |                            |          |
| <b>0093-PZM</b>                    |                         |                                                                                                                                                                |            | Well has been found and is accessible without hazards. If no, explain in the comments section. <span style="float: right;">X</span> |                                                                                                                                                     |                                |                |                            |          |
|                                    |                         |                                                                                                                                                                |            | Well Pad Condition                                                                                                                  |                                                                                                                                                     |                                |                |                            |          |
| Sampling Parameters                |                         |                                                                                                                                                                |            | Good: no visible cracks and is sloping <span style="float: right;">X</span>                                                         |                                                                                                                                                     |                                |                |                            |          |
| Parameter                          | Collected?              | Parameter                                                                                                                                                      | Collected? | Fair: some visible cracks and/or not sloping                                                                                        |                                                                                                                                                     |                                |                |                            |          |
| ICL-VOCs                           |                         | Dissolved Zn and Cd                                                                                                                                            |            | Poor: heavily cracked                                                                                                               |                                                                                                                                                     |                                |                |                            |          |
| IPH-GRO                            |                         | BTEX and naphthalene <span style="float: right;">X</span>                                                                                                      |            | Unsure: pad has been buried by site activities                                                                                      |                                                                                                                                                     |                                |                |                            |          |
| IPH-DRO                            |                         |                                                                                                                                                                |            | Bolts in place <span style="float: right;">X</span>                                                                                 |                                                                                                                                                     |                                |                |                            |          |
| O&G                                |                         |                                                                                                                                                                |            | Bolts are missing                                                                                                                   |                                                                                                                                                     |                                |                |                            |          |
| Total Cyanide                      |                         | VOC,<br>SVOC, TAI<br>Metals and mercury,<br>Sulfate,<br>Nitrate,<br>Ammonia,<br>COD,<br>Alkalinity,<br>Chloride,<br>Turbidity,<br>IDS,<br>Specific Conductance |            | Well Casing Condition                                                                                                               |                                                                                                                                                     |                                |                |                            |          |
| ICL SVOCs                          |                         |                                                                                                                                                                |            | Casing is free from damage and visibly marked with the Well ID <span style="float: right;">X</span>                                 |                                                                                                                                                     |                                |                |                            |          |
| TAI Metals and Mercury (total)     |                         |                                                                                                                                                                |            | Well Condition                                                                                                                      |                                                                                                                                                     |                                |                |                            |          |
| TAI 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 = 1.17 gal/ft                             |                                                                                                                                                     |                                |                |                            |          |
| 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 <span style="float: right;">X</span>                                                  |                                                                                                                                                     |                                |                |                            |          |
| 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 <span style="float: right;">X</span>                                                                                 |                                                                                                                                                     |                                |                |                            |          |
|                                    |                         |                                                                                                                                                                |            | Well permit is present                                                                                                              |                                                                                                                                                     |                                |                |                            |          |
| Sampled By: <b>SKL</b>             |                         | Comments: <b>PH &gt; 10</b>                                                                                                                                    |            |                                                                                                                                     |                                                                                                                                                     |                                |                |                            |          |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: **1057-PZP002**

Project Name: **COA GW 2024**

Well Diameter (in): **2**

Project Number: **21010210**

Depth to Product (ft):

Date: **11/19/2024**

Depth to Water (ft): **16.12**

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (ml/min) **200**

Depth to Bottom (ft): **17.98**

Length of time Purged (min)

## PURGING RECORD

| Time            | Volume Purged (gallons) | D/W (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            |                         | 16.06      | 17.97     | 11.78           | 1.12                              | 0.50                          | -56           | 97.3                         |          |
| 1215            |                         | 16.89      | 18.04     | 11.79           | 1.07                              | 0.00                          | -71           | 42.3                         |          |
| 1220            |                         | 17.25      | 17.45     | 11.81           | 1.01                              | 0.00                          | -82           | 29.3                         |          |
| 1225            |                         | 17.73      | 18.13     | 11.80           | 1.00                              | 0.00                          | -94           | 22.3                         |          |
| <del>1230</del> |                         |            |           |                 |                                   |                               |               |                              |          |
| <del>1235</del> |                         |            |           |                 |                                   |                               |               |                              |          |
| <del>1240</del> |                         |            |           |                 |                                   |                               |               |                              |          |
| 1230            |                         | 17.96      | 18.06     | 11.85           | 1.01                              | 0.00                          | -107          | 83.1                         |          |
|                 |                         |            |           |                 |                                   |                               |               |                              |          |
|                 |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                                  |            | Time Collected                        |            | Well Inspection                                                                                         |  |
|--------------------------------------------|------------|---------------------------------------|------------|---------------------------------------------------------------------------------------------------------|--|
| CO57PZP002                                 |            | 1405                                  |            | 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                          |            | Poor: heavily cracked                                                                                   |  |
| TPH-GRO                                    |            | and Cd                                |            | Unclear: pad has been buried by site activities                                                         |  |
| TPH-DRO                                    |            | BTEX and                              |            | Bolts in place                                                                                          |  |
| O&G                                        |            | naphthalene                           |            | Bolts are missing                                                                                       |  |
| Total Cyanide                              |            | VOC,                                  |            | Well Casing Condition                                                                                   |  |
| TCL SVOCs                                  |            | SVOC, IAI                             |            | Casing is free from damage and visibly marked with the Well ID                                          |  |
| IAI Metals and Mercury (total)             |            | Metals and mercury, Sulfate, Nitrate, |            | Well Condition                                                                                          |  |
| IAI 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,                 |            | Well is structurally sound: not bent, broken, and no blockage identified                                |  |
| PCB                                        |            | Turbidity,                            |            | Well is bent or broken but is able to be used                                                           |  |
| Matrix Spike                               |            | TDS,                                  |            | Well is broken and is not able to be used                                                               |  |
| Duplicate                                  |            | Specific Conductance                  |            | Well is blocked and is not able to be used                                                              |  |
| Comments: <b>purge rate slowed ran dry</b> |            |                                       |            | Cap is present                                                                                          |  |
|                                            |            |                                       |            | Well permit is present                                                                                  |  |
| Sampled By                                 |            |                                       |            |                                                                                                         |  |

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: **CO 2062-MWS**

Project Name: **COA GW 2024**

Well Diameter (in): **2**

Project Number: **21010210**

Depth to Product (ft): **2**

Date: **10/19/2024**

Depth to Water (ft): **14.15**

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (ml/min):

Depth to Bottom (ft): **22.47**

Length of time Purged (min):

## PURGING RECORD

| Time | Volume Purged (gallons) | DTW (feet) | Temp (°C) | pH (±0.1) | Specific Conductance (mc/cm) ± 3% | Dissolved Oxygen (mg/L) ± 0.3 | ORP (mV) ± 10 | Turbidity (NTU) ± 10% or 5 | Comments |
|------|-------------------------|------------|-----------|-----------|-----------------------------------|-------------------------------|---------------|----------------------------|----------|
| 1305 |                         | 14.15      | 17.76     | 11.74     | 2.62                              | 0.00                          | -140          | 12.4                       |          |
| 1310 |                         | 14.15      | 17.85     | 11.74     | 2.63                              | 0.00                          | -169          | 13.9                       |          |
| 1315 |                         | 14.15      | 17.64     | 11.74     | 2.62                              | 0.00                          | -175          | 24.9                       |          |
| 1320 |                         | 14.15      | 17.68     | 11.74     | 2.62                              | 0.00                          | -178          | 25.9                       |          |
|      |                         |            |           |           |                                   |                               |               |                            |          |
|      |                         |            |           |           |                                   |                               |               |                            |          |
|      |                         |            |           |           |                                   |                               |               |                            |          |
|      |                         |            |           |           |                                   |                               |               |                            |          |
|      |                         |            |           |           |                                   |                               |               |                            |          |
|      |                         |            |           |           |                                   |                               |               |                            |          |
|      |                         |            |           |           |                                   |                               |               |                            |          |
|      |                         |            |           |           |                                   |                               |               |                            |          |
|      |                         |            |           |           |                                   |                               |               |                            |          |
|      |                         |            |           |           |                                   |                               |               |                            |          |
|      |                         |            |           |           |                                   |                               |               |                            |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                      |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------------------------|--|
| <b>CO2062-MWS</b>                  |            | <b>1325</b>                                                                                                    |            | 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                            |            |                                                                                                                |            | Unclear: pad has been buried by site activities                                                      |  |
| TPH-DRO                            |            | BTX and naphthalene                                                                                            |            | Bolts in place                                                                                       |  |
| O&G                                |            |                                                                                                                |            | Bolts are missing                                                                                    |  |
| Total Cyanide                      |            | VOC                                                                                                            |            | Well Casing Condition                                                                                |  |
| TCL SVOCs                          |            | SVOC, LAL                                                                                                      |            | Casing is free from damage and visibly marked with the Well ID                                       |  |
| LAL Metals and Mercury (total)     |            | Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance |            | Well Condition                                                                                       |  |
| LAL 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                             |  |
| 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:                                                                                                      |            |                                                                                                      |  |



# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CO152-P2M

Project Name: COA GW 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft):

Date: 10/31/24

Depth to Water (ft): 9.19

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min)

Depth to Bottom (ft): 20.69

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 |
|-----------------|-------------------------|------------|-----------|----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1155            |                         | 9.70       | 22.91     | 7.99           | 0.920                             | 2.26                          | -353          | 0.00                         |          |
| 1200            |                         | 9.70       | 22.92     | 7.98           | 0.919                             | 2.11                          | -355          | 0.00                         |          |
| 1205            |                         | 9.70       | 23.04     | 7.97           | 0.914                             | 2.07                          | -357          | 0.00                         |          |
| 1210            |                         | 9.70       | 23.14     | 7.97           | 0.909                             | 2.08                          | -359          | 0.00                         |          |
| 1215            |                         | 9.70       | 23.26     | 7.98           | 0.904                             | 2.04                          | -361          | 0.00                         |          |
| <del>1220</del> |                         |            |           |                |                                   |                               |               |                              |          |
|                 |                         |            |           |                |                                   |                               |               |                              |          |
|                 |                         |            |           |                |                                   |                               |               |                              |          |
|                 |                         |            |           |                |                                   |                               |               |                              |          |
|                 |                         |            |           |                |                                   |                               |               |                              |          |
|                 |                         |            |           |                |                                   |                               |               |                              |          |
|                 |                         |            |           |                |                                   |                               |               |                              |          |
|                 |                         |            |           |                |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                                |            | Well Inspection                                                                                                                                          |  |
|------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| CO152-P2M                          |            | 1225                                                                                                                          |            | 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" 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<br>_____ 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  
AZJ

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CO 152-P2M

Project Name: COA GW 2024

Well Diameter (in): 2

Project Number: 21010210

Depth to Product (ft):

Date: 10/31/24

Depth to Water (ft): 9.14

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) 260

Depth to Bottom (ft): 20.69

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1105 |                         |            | 20.61     | 8.08            | 0.928                             | 0.4484                        | -255          | 4.6                          |          |
| 1110 |                         | 9.72       | 20.62     | 8.13            | 0.911                             | 50.00                         | -300          | 7.8                          |          |
| 1115 |                         | 9.70       | 21.57     | 8.14            | 0.910                             | 6.34                          | -321          | 4.8                          |          |
| 1120 |                         | 9.70       | 21.86     | 8.13            | 0.912                             | 5.03                          | -329          | 4.8                          |          |
| 1125 |                         | 9.70       | 22.06     | 8.10            | 0.918                             | 4.29                          | -336          | 1.5                          |          |
| 1130 |                         | 9.70       | 22.32     | 8.08            | 0.924                             | 3.74                          | -340          | 0.0                          |          |
| 1135 |                         | 9.70       | 22.45     | 8.07            | 0.925                             | 3.52                          | -344          | 0.00                         |          |
| 1140 |                         | 9.70       | 22.67     | 8.03            | 0.927                             | 3.19                          | -346          | 0.00                         |          |
| 1145 |                         | 9.70       | 22.74     | 8.01            | 0.927                             | 2.89                          | -349          | 0.00                         |          |
| 1150 |                         | 9.70       | 22.85     | 8.00            | 0.925                             | 2.40                          | -351          | 0.00                         |          |

## SAMPLE RECORD AND WELL DETAILS

| Sample ID                          |            | Time Collected                                                                                                 |            | Well Inspection                                                                                                 |  |
|------------------------------------|------------|----------------------------------------------------------------------------------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------|--|
| <u>CO 152-P2M</u>                  |            | <u>1330</u>                                                                                                    |            | 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                                                                          |  |
| Parameter                          | Collected? | Parameter                                                                                                      | Collected? | Fair: some visible cracks and/or not sloping                                                                    |  |
| TCL-VOCs                           |            | Dissolved Zn                                                                                                   |            | Poor: heavily cracked                                                                                           |  |
| TPH-GRO                            |            | and Cd                                                                                                         |            | Unsure: pad has been buried by site activities                                                                  |  |
| TPH-DRO                            |            | BTEX and                                                                                                       |            | Bolts in place                                                                                                  |  |
| O&G                                |            | naphthalene                                                                                                    |            | 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, 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 |  |
| 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:

Sampled By  
AZJ

# Low Flow Sampling Purge Log



**ARM Group  
Enterprises LLC**  
Engineers and Scientists

Well Number: CO02-PZM04

Project Name: COA GW 2024

Well Diameter (in): 7

Project Number: 21010210

Depth to Product (ft):

Date: 10/28/24

Depth to Water (ft): 15.40

One Well Volume (gal):

Product Thickness (ft):

Flow Rate (mL/min) 200

Depth to Bottom (ft): 51.89

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 |
|------|-------------------------|------------|-----------|-----------------|-----------------------------------|-------------------------------|---------------|------------------------------|----------|
| 1310 |                         | 15.60      | 25.63     | 7.31            | 2.15                              | 1.78                          | -155          | 60.7                         |          |
| 1315 |                         | 15.60      | 25.25     | 7.18            | 2.17                              | 0.00                          | -156          | 49.9                         |          |
| 1320 |                         | 15.60      | 25.29     | 7.08            | 2.17                              | 0.00                          | -154          | 47.8                         |          |
| 1325 |                         | 15.60      | 25.16     | 7.04            | 2.14                              | 0.00                          | -159          | 37.2                         |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |
|      |                         |            |           |                 |                                   |                               |               |                              |          |

## SAMPLE RECORD AND WELL DETAILS

|                                    |            |                                                                                                                               |            |                                                                                                                                                          |  |  |
|------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Sample ID                          |            | Time Collected                                                                                                                |            | Well Inspection                                                                                                                                          |  |  |
| CO02-PZM04                         |            | 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                            |            |                                                                                                                               |            | 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" 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<br>_____ 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:                                                                                                                     |            |                                                                                                                                                          |  |  |
| AZ                                 |            |                                                                                                                               |            |                                                                                                                                                          |  |  |

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## **APPENDIX C**

### **System Operations/Shut-Down Summary**

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# JANUARY 2024

| SUNDAY                                           | MONDAY                                                                   | TUESDAY                                                             | WEDNESDAY                                        | THURSDAY                                         | FRIDAY                                           | SATURDAY                                         |
|--------------------------------------------------|--------------------------------------------------------------------------|---------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------|--------------------------------------------------|--------------------------------------------------|
|                                                  | 1<br>Cell 1 (On) - Northern Configuration<br>Cell 3 (On)<br>Cell 5 (Off) | 2<br>Cell 1 (On) - Sampled<br>Cell 3 (On) - Sampled<br>Cell 5 (Off) | 3<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off)  | 4<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off)  | 5<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off)  | 6<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off)  |
| 7<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off)  | 8<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off)                          | 9<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off)                     | 10<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off) | 11<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off) | 12<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off) | 13<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off) |
| 14<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off) | 15<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off)                         | 16<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off)                    | 17<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off) | 18<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off) | 19<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off) | 20<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off) |
| 21<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off) | 22<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off)                         | 23<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off)                    | 24<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off) | 25<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off) | 26<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off) | 27<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off) |
| 28<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off) | 29<br>Cell 1 (On) - southern wellfield<br>Cell 3 (On)<br>Cell 5 (Off)    | 30<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off)                    | 31<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (Off) |                                                  |                                                  |                                                  |
|                                                  |                                                                          | NOTES: Cell 2 Offline, Cell 5 Offline due to leaking LGAC Vessel    |                                                  |                                                  |                                                  |                                                  |

# FEBRUARY 2024

| SUNDAY                                                                                                         | MONDAY                                                                                                                                                                                                  | TUESDAY                                                                                                                                                            | WEDNESDAY                                                                           | THURSDAY                                                         | FRIDAY                                                           | SATURDAY                                                         |
|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|
|                                                                                                                |                                                                                                                                                                                                         |                                                                                                                                                                    |                                                                                     | <b>1</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> )  | <b>2</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> )  | <b>3</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> )  |
| <b>4</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> )                                                | <b>5</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> )                                                                                                                                         | <b>6</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> )                                                                                                    | <b>7</b><br>Cell 1 (On) - Sampled<br>Cell 3 (On) - Sampled<br>Cell 5 ( <b>Off</b> ) | <b>8</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> )  | <b>9</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> )  | <b>10</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> ) |
| <b>11</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> )                                               | <b>12</b><br>Cell 1 (On) - Changed the AS compressor intake air filter and greased the AS compressor head and motor bearings. northern wellfield configuration.<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> ) | <b>13</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> )                                                                                                   | <b>14</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> )                    | <b>15</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> ) | <b>16</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> ) | <b>17</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> ) |
| <b>18</b><br>Cell 1 (On) - System down @ 0530 for SVE VFD Fault alarm.<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> ) | <b>19</b><br>Cell 1 (On) - System brought back online @ 1220.<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> )                                                                                                   | <b>20</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> ) - Changed LRP hydraulic oil, changed LRP oil mist filters, and greased DPE blower motor bearings. | <b>21</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> )                    | <b>22</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> ) | <b>23</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> ) | <b>24</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> ) |
| <b>25</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> )                                               | <b>26</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> ) - Refurbished LGAC brought on site                                                                                                     | <b>27</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> )                                                                                                   | <b>28</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> )                    | <b>29</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> ) |                                                                  |                                                                  |
|                                                                                                                |                                                                                                                                                                                                         | <b>NOTES:</b> Cell 2 Offline                                                                                                                                       |                                                                                     |                                                                  |                                                                  |                                                                  |



# MARCH 2024

| SUNDAY                                                          | MONDAY                                                                                                                                                           | TUESDAY                                                                                                                                                                                               | WEDNESDAY                                                                                           | THURSDAY                                               | FRIDAY                                                          | SATURDAY                                                        |
|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|
|                                                                 |                                                                                                                                                                  |                                                                                                                                                                                                       |                                                                                                     |                                                        | <b>1</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>off</b> ) | <b>2</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>off</b> ) |
| <b>3</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>off</b> ) | <b>4</b><br>Cell 1 (On) - Sampled<br>Cell 3 (On) - Sampled<br>Cell 5 ( <b>off</b> ) - Refurbished LGAC vessel filled with potable water to off-gas for 48 hours. | <b>5</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>off</b> ) - Reconfigured hoses to make existing vessel with slightly used carbon the lead vessel and the new refurbished vessel the lag vessel. | <b>6</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 ( <b>On</b> ) - System brought back online @ 1405. | <b>7</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)  | <b>8</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)           | <b>9</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)           |
| <b>10</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)          | <b>11</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                           | <b>12</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                                | <b>13</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                              | <b>14</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On) | <b>15</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)          | <b>16</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)          |
| <b>17</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)          | <b>18</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                           | <b>19</b><br>Cell 1 (On)<br>Cell 3 (On) - Southern wellfield configuration.<br>Cell 5 (On)                                                                                                            | <b>20</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                              | <b>21</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On) | <b>22</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)          | <b>23</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)          |
| <b>24</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)          | <b>25</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On) - Transfer sulfuric acid into process room.                                                               | <b>26</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                                | <b>27</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                              | <b>28</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On) | <b>29</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)          | <b>30</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)          |
| <b>31</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)          |                                                                                                                                                                  | <b>NOTES:</b> Cell 2 Offline                                                                                                                                                                          |                                                                                                     |                                                        |                                                                 |                                                                 |

# APRIL 2024

| SUNDAY                                                                                                                                                                                         | MONDAY                                                 | TUESDAY                                                                                 | WEDNESDAY                                                                               | THURSDAY                                                                  | FRIDAY                                                                                             | SATURDAY                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------|
|                                                                                                                                                                                                |                                                        | <b>1</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                   | <b>2</b><br>Cell 1 (On) Northern wellfield configuration.<br>Cell 3 (On)<br>Cell 5 (On) | <b>3</b><br>Cell 1 (On) - Sampled<br>Cell 3 (On) - Sampled<br>Cell 5 (On) | <b>4</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                              | <b>5</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)  |
| <b>6</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                          | <b>7</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)  | <b>8</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                   | <b>9</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                   | <b>10</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                    | <b>11</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                             | <b>12</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On) |
| <b>13</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On) - Replaced sulfuric acid metering pump check valve and cleaned MS tank and AST transfer pump float actuator switches and sight glasses. | <b>14</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On) | <b>15</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                  | <b>16</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                  | <b>17</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                    | <b>18</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On) - Transfer sulfuric acid into process room. | <b>19</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On) |
| <b>20</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                         | <b>21</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On) | <b>22</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On) -- Changed LRP oil mist filters. | <b>23</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                  | <b>24</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                    | <b>25</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                             | <b>26</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On) |
| <b>27</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                         | <b>28</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On) | <b>29</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                  | <b>30</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                  |                                                                           |                                                                                                    |                                                        |
|                                                                                                                                                                                                |                                                        | <b>NOTES:</b> Cell 2 Offline                                                            |                                                                                         |                                                                           |                                                                                                    |                                                        |

# MAY 2024

| SUNDAY                                                  | MONDAY                                                                                                                                                                                                                                                   | TUESDAY                                                                             | WEDNESDAY                                                          | THURSDAY                                                | FRIDAY                                                  | SATURDAY                                                |
|---------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------------|
|                                                         |                                                                                                                                                                                                                                                          |                                                                                     | 1<br>Cell 1 (On) - Sampled<br>Cell 3 (On) - Sampled<br>Cell 5 (On) | 2<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)          | 3<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)          | 4<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)          |
| 5<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)          | 6<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                                                                                           | 7<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                      | 8<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                     | 9<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)          | 10<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)         | 11<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)         |
| 12<br>Cell 1 (On)<br><br>Cell 3 (On)<br><br>Cell 5 (On) | 13<br>Cell 1 (On)<br>Cell 3 (On) - Changed the AS compressor oil and intake air filter and greased the AS compressor motor bearings.<br>Cell 5 (On)                                                                                                      | 14<br>Cell 1 (On) - Northern wellfield configuration.<br>Cell 3 (On)<br>Cell 5 (On) | 15<br>Cell 1 (On)<br><br>Cell 3 (On)<br><br>Cell 5 (On)            | 16<br>Cell 1 (On)<br><br>Cell 3 (On)<br><br>Cell 5 (On) | 17<br>Cell 1 (On)<br><br>Cell 3 (On)<br><br>Cell 5 (On) | 18<br>Cell 1 (On)<br><br>Cell 3 (On)<br><br>Cell 5 (On) |
| 19<br>Cell 1 (On)<br>Cell 3 (On)<br><br>Cell 5 (On)     | 20<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On) inspect the AST trays for calcium build-up, removed the louvre slats on the exterior frame of the AST blower air intake to clean the screen to allow increased air flow across the perforated AST trays. | 21<br>Cell 1 (On)<br>Cell 3 (On)<br><br>Cell 5 (On)                                 | 22<br>Cell 1 (On)<br>Cell 3 (On)<br><br>Cell 5 (On)                | 23<br>Cell 1 (On)<br>Cell 3 (On)<br><br>Cell 5 (On)     | 24<br>Cell 1 (On)<br>Cell 3 (On)<br><br>Cell 5 (On)     | 25<br>Cell 1 (On)<br>Cell 3 (On)<br><br>Cell 5 (On)     |
| 26<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)         | 27<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                                                                                          | 28<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                     | 29<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                    | 30<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)         | 31<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)         |                                                         |
|                                                         |                                                                                                                                                                                                                                                          | NOTES: Cell 2 Offline                                                               |                                                                    |                                                         |                                                         |                                                         |

# JUNE 2024

| SUNDAY                                                                     | MONDAY                                                                                      | TUESDAY                                                | WEDNESDAY                                              | THURSDAY                                                                                                                               | FRIDAY                                                                                                                                                             | SATURDAY                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                            |                                                                                             |                                                        |                                                        |                                                                                                                                        |                                                                                                                                                                    | <b>1</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                                                          |
| <b>2</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                      | <b>3</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                       | <b>4</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)  | <b>5</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)  | <b>6</b><br>Cell 1 (On) - System down @ 0530 for SVE VFD Fault alarm. System brought back online @ 0755.<br>Cell 3 (On)<br>Cell 5 (On) | <b>7</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                              | <b>8</b><br>Cell 1 ( <b>Off</b> ) - System down @ 1555 for SVE VFD Fault alarm<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                   |
| <b>9</b><br>Cell 1 ( <b>Off</b> )<br>Cell 3 (On)<br>Cell 5 (On)            | <b>10</b><br>Cell 1 (On) - System brought back online @ 0715.<br>Cell 3 (On)<br>Cell 5 (On) | <b>11</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On) | <b>12</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On) | <b>13</b><br>Cell 1 (On) - System down @ 2355 for SVE VFD Fault alarm.<br>Cell 3 (On)<br>Cell 5 (On)                                   | <b>14</b><br>Cell 1 ( <b>Off</b> )<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                   | <b>15</b><br>Cell 1 ( <b>Off</b> )<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                                               |
| <b>16</b><br>Cell 1 ( <b>Off</b> )<br>Cell 3 (On)<br>Cell 5 (On)           | <b>17</b><br>Cell 1 (On) - System brought back online @ 0605.<br>Cell 3 (On)<br>Cell 5 (On) | <b>18</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On) | <b>19</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On) | <b>20</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                 | <b>21</b><br>Cell 1 (On) - Weed trimmed open areas around the AS/SVE system trailer and approximately 10% of the southern wellfield.<br>Cell 3 (On)<br>Cell 5 (On) | <b>22</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                                                         |
| <b>23</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                     | <b>24</b><br>Cell 1 (On) - Northern wellfield configuration<br>Cell 3 (On)<br>Cell 5 (On)   | <b>25</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On) | <b>26</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On) | <b>27</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                 | <b>28</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                             | <b>29</b><br>Cell 1 ( <b>Off</b> ) - System down @ 0740 for Power Fault alarm due to severe weekend thunderstorm.<br>Cell 3 (On)<br>Cell 5 (On) - System down @ 0725 for Power Fault alarm due to severe weekend thunderstorm. |
| <b>30</b><br>Cell 1 ( <b>Off</b> )<br>Cell 3 (On)<br>Cell 5 ( <b>Off</b> ) |                                                                                             | <b>NOTES:</b> Cell 2 Offline                           |                                                        |                                                                                                                                        |                                                                                                                                                                    |                                                                                                                                                                                                                                |

# JULY 2024

| SUNDAY                                                               | MONDAY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | TUESDAY                                                                          | WEDNESDAY                                                                                                                                                                                                                          | THURSDAY                                                                | FRIDAY                                                                                                                  | SATURDAY                                                                |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
|                                                                      | <b>1</b><br>Cell 1 ( <b>Off</b> ) - Phase from overhead electric grid out on arrival. Notified TPA electricians and was informed it is a BGE issue. System brought back online @ 1005 but down again at 1130 for a Sparge Discharge High Temp Alarm. XP fan is burned up. TPA electricians ordered new parts, Weeds trimmed remaining approximately 90% of the southern wellfield and approximately 40% of the northern wellfield.<br>Cell 3 (On) - Phase from overhead electric grid out on arrival. Notified TPA electricians and was informed that it is a BGE issue. System brought back online @ 1105.<br>Cell 5 (On) - Phase from overhead electric grid out on arrival. Notified TPA electricians and was informed that it is a BGE issue. System brought back online @ 0945. | <b>2</b><br>Cell 1 ( <b>Off</b> )<br><br>Cell 3 (On)<br><br>Cell 5 (On)          | <b>3</b><br>Cell 1 ( <b>Off</b> )<br><br>Cell 3 (On)<br><br>Cell 5 (On) - System down @ 1040 for Power Fault alarm.                                                                                                                | <b>4</b><br>Cell 1 ( <b>Off</b> )<br><br>Cell 3 (On)<br><br>Cell 5 (On) | <b>5</b><br>Cell 1 ( <b>Off</b> ) - New relay base installed by TPA electricians.<br><br>Cell 3 (On)<br><br>Cell 5 (On) | <b>6</b><br>Cell 1 ( <b>Off</b> )<br><br>Cell 3 (On)<br><br>Cell 5 (On) |
| <b>7</b><br>Cell 1 ( <b>Off</b> )<br>Cell 3 (On)<br>Cell 5 (On)      | <b>8</b><br>Cell 1 ( <b>Off</b> )<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>9</b><br>Cell 1 ( <b>Off</b> )<br>Cell 3 (On)<br>Cell 5 (On)                  | <b>10</b><br>Cell 1 ( <b>Off</b> )<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                                                   | <b>11</b><br>Cell 1 ( <b>Off</b> )<br>Cell 3 (On)<br>Cell 5 (On)        | <b>12</b><br>Cell 1 ( <b>Off</b> )<br>Cell 3 (On)<br>Cell 5 (On)                                                        | <b>13</b><br>Cell 1 ( <b>Off</b> )<br>Cell 3 (On)<br>Cell 5 (On)        |
| <b>14</b><br>Cell 1 ( <b>Off</b> )<br>Cell 3 (On)<br><br>Cell 5 (On) | <b>15</b><br>Cell 1 (On)<br>Cell 3 (On)<br><br>Cell 5 (On)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>16</b><br>Cell 1 (On)<br>Cell 3 (On)<br><br>Cell 5 (On)                       | <b>17</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On) - Control room and Process room fans damaged due to power surge. New motors ordered. Cleaned AST blower screen to allow increased air flow across the perforated AST trays. | <b>18</b><br>Cell 1 (On)<br>Cell 3 (On)<br><br>Cell 5 (On)              | <b>19</b><br>Cell 1 (On)<br>Cell 3 (On)<br><br>Cell 5 (On)                                                              | <b>20</b><br>Cell 1 (On)<br>Cell 3 (On)<br><br>Cell 5 (On)              |
| <b>21</b><br>Cell 1 (On)<br>Cell 3 (On)<br><br>Cell 5 (On)           | <b>22</b><br>Cell 1 (On)<br>Cell 3 (On)<br><br>Cell 5 (On)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>23</b><br>Cell 1 (On) - Sampled.<br>Cell 3 (On) - Sampled.<br><br>Cell 5 (On) | <b>24</b><br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On) - Changed LRP oil mist filters, topped off LRP hydraulic oil, and greased DPE blower motor bearings.                                                                        | <b>25</b><br>Cell 1 (On)<br>Cell 3 (On)<br><br>Cell 5 (On)              | <b>26</b><br>Cell 1 (On)<br>Cell 3 (On)<br><br>Cell 5 (On)                                                              | <b>27</b><br>Cell 1 (On)<br>Cell 3 (On)<br><br>Cell 5 (On)              |
| <b>28</b><br>Cell 1 (On)<br>Cell 3 (On)<br><br>Cell 5 (On)           | <b>29</b><br>Cell 1 (On)<br>Cell 3 (On)<br><br>Cell 5 (On)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>30</b><br>Cell 1 (On)<br>Cell 3 (On)<br><br>Cell 5 (On)                       | <b>31</b><br>Cell 1 (On) - Southern wellfield configuration<br>Cell 3 (On)<br>Cell 5 (On) - TPA electricians replaced process room exhaust fan motor.                                                                              |                                                                         |                                                                                                                         |                                                                         |
|                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | NOTES: Cell 2 Offline                                                            |                                                                                                                                                                                                                                    |                                                                         |                                                                                                                         |                                                                         |

# AUGUST 2024

| SUNDAY                                               | MONDAY                                               | TUESDAY                                                                                                                                                                                                    | WEDNESDAY                                                                                    | THURSDAY                                                                                  | FRIDAY                                               | SATURDAY                                                                                         |
|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|------------------------------------------------------|--------------------------------------------------------------------------------------------------|
|                                                      |                                                      |                                                                                                                                                                                                            |                                                                                              | 1<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                            | 2<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)       | 3<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                                   |
| 4<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)       | 5<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)       | 6<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                                             | 7<br>Cell 1 (On) - System down @ 2145 for SVE VFD Fault alarm.<br>Cell 3 (On)<br>Cell 5 (On) | 8<br>Cell 1 (On) - 8/8 - System brought back online @ 1045.<br>Cell 3 (On)<br>Cell 5 (On) | 9<br>Cell 1 (On)<br>Cell 3 (On)<br>Cell 5 (On)       | 10<br>Cell 1 (Off) - System down @ 0950 for Main Power Fault Alarm<br>Cell 3 (On)<br>Cell 5 (On) |
| 11<br>Cell 1 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On) | 12<br>Cell 1 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On) | 13<br>Cell 1 (Off) - TPA electrician performed troubleshooting and determined that the sparge blower motor was damaged. TPA removed motor and sent out for repair/refurbish.<br>Cell 3 (On)<br>Cell 5 (On) | 14<br>Cell 1 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On)                                         | 15<br>Cell 1 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On)                                      | 16<br>Cell 1 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On) | 17<br>Cell 1 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On)                                             |
| 18<br>Cell 1 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On) | 19<br>Cell 1 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On) | 20<br>Cell 1 (Off) - System down for VFD Fault Alarm, TPA Electricians determined damaged SVE Motor was the cause, TPA removed and sent out for repair.<br>Cell 3 (On)<br>Cell 5 (On)                      | 21<br>Cell 1 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On)                                         | 22<br>Cell 1 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On)                                      | 23<br>Cell 1 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On) | 24<br>Cell 1 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On)                                             |
| 25<br>Cell 1 (Off)<br>Cell 3 (On)<br>Cell 5 (On)     | 26<br>Cell 1 (Off)<br>Cell 3 (On)<br>Cell 5 (On)     | 27<br>Cell 1 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                                           | 28<br>Cell 1 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                                             | 29<br>Cell 1 (Off)<br>Cell 3 (On) - Sampled<br>Cell 5 (On)                                | 30<br>Cell 1 (Off)<br>Cell 3 (On)<br>Cell 5 (On)     | 31<br>Cell 1 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                                                 |
|                                                      |                                                      | NOTES: Cell 2 Offline                                                                                                                                                                                      |                                                                                              |                                                                                           |                                                      |                                                                                                  |



# SEPTEMBER 2024

| SUNDAY                                                                   | MONDAY                                                                                                                                                                                                                                         | TUESDAY                                                                                                            | WEDNESDAY                                                                                                                                                                                                                           | THURSDAY                                                                                                                                                                                                                                                                                      | FRIDAY                                                                                                                                                                | SATURDAY                                                                 |
|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| 1<br>Cell 1 (Off)<br><br>Cell 2 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On)  | 2<br>Cell 1 (Off)<br><br>Cell 2 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                                                        | 3<br>Cell 1 (Off)<br><br>Cell 2 (Off) - Reinstalled the submersible pump at EW-4<br><br>Cell 3 (On)<br>Cell 5 (On) | 4<br>Cell 1 (Off)<br>Cell 2 (Off) - Replumbed and tested the water inlet line from the submersible pump to the inlet tank. Uncovered and repaired the cleanouts for the reinjection well headers.<br><br>Cell 3 (On)<br>Cell 5 (On) | 5<br>Cell 1 (Off)<br>Cell 2 (Off) - . Placed and connected the two carbon vessels that will be used for vapor side remediation. Removed the non-working cat-ox and placed at Cell 6.<br><br>Cell 3 (On)<br>Cell 5 (On)                                                                        | 6<br>Cell 1 (Off)<br><br>Cell 2 (Off) - Repaired the broken Water outlet line leaving the Sea Container.<br><br>Cell 3 (On)<br>Cell 5 (On)                            | 7<br>Cell 1 (Off)<br><br>Cell 2 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On)  |
| 8<br>Cell 1 (Off)<br><br>Cell 2 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On)  | 9<br>Cell 1 (Off)<br><br>Cell 2 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                                                        | 10<br>Cell 1 (Off)<br><br>Cell 2 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On)                                           | 11<br>Cell 1 (Off)<br><br>Cell 2 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                                            | 12<br>Cell 1 (Off)<br><br>Cell 2 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                                                                                                      | 13<br>Cell 1 (Off)<br>Cell 2 (Off) TPA electricians have been working to bring the PLC system back online without the cat-ox connection<br>Cell 3 (On)<br>Cell 5 (On) | 14<br>Cell 1 (Off)<br><br>Cell 2 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On) |
| 15<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)         | 16<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                                                               | 17<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                                                   | 18<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                                                    | 19<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                                                                                                              | 20<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On) - Transferred drum of sulfuric acid to process room.                                                 | 21<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)         |
| 22<br>Cell 1 (Off)<br><br>Cell 2 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On) | 23<br>Cell 1 (Off)<br><br>Cell 2 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                                                       | 24<br>Cell 1 (Off)<br><br>Cell 2 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On)                                           | 25<br>Cell 1 (Off)<br><br>Cell 2 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On)                                                                                                                                                            | 26<br>Cell 1 (Off)<br>Cell 2 (On) Pilot test - it was determined that reinjection wells CO52-PZM, CO53-PZM and CO54-PZM not accepting the reinjections batches and will need additional work including redeveloping and the installation of new well heads.<br><br>Cell 3 (On)<br>Cell 5 (On) | 27<br>Cell 1 (Off)<br><br>Cell 2 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On) - Changed LRP oil mist filters, bag filters and acid check valve injector                    | 28<br>Cell 1 (Off)<br><br>Cell 2 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On) |
| 29<br>Cell 1 (Off)<br><br>Cell 2 (Off)<br><br>Cell 3 (On)<br>Cell 5 (On) | 30<br>Cell 1 (Off)<br>Cell 2 (Off) - Repair and reinstallation of the inlet totalizer. Installation of telemetry system and reprogramming of the HMI system to allow for operation with out the CATOX.<br>Cell 3 (On) - Sampled<br>Cell 5 (On) | NOTES: Cell 2 Offline                                                                                              |                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                               |                                                                                                                                                                       |                                                                          |
|                                                                          |                                                                                                                                                                                                                                                |                                                                                                                    |                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                               |                                                                                                                                                                       |                                                                          |

# OCTOBER 2024

| SUNDAY                                                                                                      | MONDAY                                                                                                      | TUESDAY                                                                                                                                                           | WEDNESDAY                                                                                                                                                                                                                                      | THURSDAY                                                                                                                                   | FRIDAY                                                                                                                                                                                                                                                                    | SATURDAY                                                                                                    |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
|                                                                                                             |                                                                                                             | <div>1</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div>                                                        | <div>2</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off) Installation and repairs of ball valves and lateral connections between CO52-PZM, CO53-PZM and CO54-PZM and the reinjection header.</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div> | <div>3</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off) - Reinjection well development.</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div> | <div>4</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div>                                                                                                                                                                | <div>5</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div>  |
| <div>6</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div>  | <div>7</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div>  | <div>8</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div>                                                        | <div>9</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div>                                                                                                                                     | <div>10</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div>                                | <div>11</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off) - Further excavation CO52-PZM, CO53-PZM and CO54-PZM to top of the wells. Installed new 6" Tees on the top of each well head, and each to reinjection header.</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div> | <div>12</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div> |
| <div>13</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div> | <div>14</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div> | <div>15</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off) - Repair leaking ball valves, attach 2nd VGAC vessel.</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div> | <div>16</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off) - Install PID vapor sample points.</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div>                                                                                                 | <div>17</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div>                                | <div>18</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off) - Installation and repairs of ball valves and lateral connections between CO52-PZM, CO53-PZM and CO54-PZM and the reinjection header.</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div>                         | <div>19</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div> |
| <div>20</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div> | <div>21</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div> | <div>22</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div>                                                       | <div>23</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div>                                                                                                                                    | <div>24</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div>                                | <div>25</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div>                                                                                                                                                               | <div>26</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div> |
| <div>27</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div> | <div>28</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div> | <div>29</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div>                                                       | <div>30</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div>                                                                                                                                    | <div>31</div> <div>Cell 1 (Off)</div> <div>Cell 2 (Off)</div> <div>Cell 3 (On)</div> <div>Cell 5 (On)</div>                                |                                                                                                                                                                                                                                                                           |                                                                                                             |
|                                                                                                             |                                                                                                             | NOTES:                                                                                                                                                            |                                                                                                                                                                                                                                                |                                                                                                                                            |                                                                                                                                                                                                                                                                           |                                                                                                             |

# NOVEMBER 2024

| SUNDAY                                                           | MONDAY                                                                                                                                            | TUESDAY                                                          | WEDNESDAY                                                                          | THURSDAY                                                                                                 | FRIDAY                                                                                                                                 | SATURDAY                                                        |
|------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
|                                                                  |                                                                                                                                                   |                                                                  |                                                                                    |                                                                                                          | 1<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                                                                        | 2<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On) |
| 3<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)  | 4<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                   | 5<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)  | 6<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                    | 7<br>Cell 1 (Off)<br>Cell 2 (Off) - Clean and rebuild AST.<br>Cell 3 (On)<br>Cell 5 (On)                 | 8<br>Cell 1 (Off)<br>Cell 2 (Off) - Restarted for 4 hours, leaks observed from AST, Shut down to repair.<br>Cell 3 (On)<br>Cell 5 (On) | 9<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On) |
| 10<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On) | 11<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                  | 12<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On) | 13<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                   | 14<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                                         | 15<br>Cell 1 (On) - Sparge motor replaced, system restarted. Begin north and<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)             | 16<br>Cell 1 (On)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On) |
| 17<br>Cell 1 (On)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)  | 18<br>Cell 1 (On)<br>Cell 2 (Off) - Bypassed the leaking moisture Separator tank by replumbing the 6" exhaust line.<br>Cell 3 (On)<br>Cell 5 (On) | 19<br>Cell 1 (On)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)  | 20<br>Cell 1 (On)<br>Cell 2 (On)<br>Cell 3 (On)<br>Cell 5 (On)                     | 21<br>Cell 1 (On)<br>Cell 2 (On) - Collect INF and EFF samples, shut down.<br>Cell 3 (On)<br>Cell 5 (On) | 22<br>Cell 1 (On)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                                                                        | 23<br>Cell 1 (On)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On) |
| 24<br>Cell 1 (On)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)  | 25<br>Cell 1 (On)<br>Cell 2 (On) - Restart following sample results.<br>Cell 3 (On)<br>Cell 5 (On)                                                | 26<br>Cell 1 (On)<br>Cell 2 (On)<br>Cell 3 (On)<br>Cell 5 (On)   | 27<br>Cell 1 (On) - Sampled<br>Cell 2 (On)<br>Cell 3 (On) - Sampled<br>Cell 5 (On) | 28<br>Cell 1 (On) -<br>Cell 2 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                         | 29<br>Cell 1 (Off) - Down @ 2220 MS ALARM<br>Cell 2 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                                 | 30<br>Cell 1 (Off)<br>Cell 2 (On)<br>Cell 3 (On)<br>Cell 5 (On) |
|                                                                  |                                                                                                                                                   | NOTES:                                                           |                                                                                    |                                                                                                          |                                                                                                                                        |                                                                 |

# DECEMBER 2024

| SUNDAY                                                           | MONDAY                                                                                                          | TUESDAY                                                                                              | WEDNESDAY                                                                         | THURSDAY                                                                                                                                 | FRIDAY                                                                                                     | SATURDAY                                                                                                                                      |
|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 1<br>Cell 1 (Off)<br>Cell 2 (On)<br>Cell 3 (On)<br>Cell 5 (On)   | 2<br>Cell 1 (On) - Restarted<br>Cell 2 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                       | 3<br>Cell 1 (On)<br>Cell 2 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                        | 4<br>Cell 1 (On) Down @2355 MS alarm<br>Cell 2 (On)<br>Cell 3 (On)<br>Cell 5 (On) | 5<br>Cell 1 (On) - Restarted @ 0700<br>Cell 2 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                                         | 6<br>Cell 1 (On)<br>Cell 2 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                              | 7<br>Cell 1 (On)<br>Cell 2 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                                                                 |
| 8<br>Cell 1 (On)<br>Cell 2 (On)<br>Cell 3 (On)<br>Cell 5 (On)    | 9<br>Cell 1 (On)<br>Cell 2 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                                   | 10<br>Cell 1 (On)<br>Cell 2 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                       | 11<br>Cell 1 (On)<br>Cell 2 (On)<br>Cell 3 (On)<br>Cell 5 (On)                    | 12<br>Cell 1 (On)<br>Cell 2 (On)<br>Cell 3 (On)<br>Cell 5 (On)                                                                           | 13<br>Cell 1 (On)<br>Cell 2 (Off) - Taken offline post naphthalene sampling.<br>Cell 3 (On)<br>Cell 5 (On) | 14<br>Cell 1 (On)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                                                                               |
| 15<br>Cell 1 (On)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)  | 16<br>Cell 1 (On) - Grease sparge bearings and replace air filter<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On) | 17<br>Cell 1 (On)<br>Cell 2 (On) - Restart to collect 2nd EFF samples.<br>Cell 3 (On)<br>Cell 5 (On) | 18<br>Cell 1 (On)<br>Cell 2 (On)<br>Cell 3 (On)<br>Cell 5 (On)                    | 19<br>Cell 1 (On)<br>Cell 2 (Off) - High PID readings on EFF vapor, shut down to address carbon changeout.<br>Cell 3 (On)<br>Cell 5 (On) | 20<br>Cell 1 (On)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                                            | 21<br>Cell 1 (Off) - @1430 System down SVE VFD Fault alarm, remain offline through end of year.<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On) |
| 22<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On) | 23<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                                                | 24<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                                     | 25<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                  | 26<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                                                                         | 27<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                                           | 28<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                                                                              |
| 29<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On) | 30<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                                                | 31<br>Cell 1 (Off)<br>Cell 2 (Off)<br>Cell 3 (On)<br>Cell 5 (On)                                     |                                                                                   |                                                                                                                                          |                                                                                                            |                                                                                                                                               |
|                                                                  |                                                                                                                 | NOTES:                                                                                               |                                                                                   |                                                                                                                                          |                                                                                                            |                                                                                                                                               |

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## **APPENDIX D**

### **Historical Data Summary**

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Coke Oven Historical Data -  
Cell 1 Groundwater Analytical Results

2024

| Parameter    | 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 | 2/1/2023 | 6/1/2023 | 8/1/2023 | 11/1/2023 | 3/1/2024 | 6/1/2024 | 8/1/2024 | 11/1/2024 |
|--------------|-------------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|
| Location ID: | CO02-PZM006 |          |           | ug/L     |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 93,000      | 133,000  | 134,000   | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        |
| Ethylbenzene | 276         | 218      | 248       | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        |
| Naphthalene  | 242         | 175      | 173       | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        |
| Toluene      | 103         | 46.7     | 99.1      | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        |
| Xylenes      | 460         | 229      | 252       | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        |
| Location ID: | CO02-PZM041 |          |           | ug/L     |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS          | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        |
| Ethylbenzene | NS          | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        |
| Naphthalene  | NS          | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        |
| Toluene      | NS          | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        |
| Xylenes      | NS          | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        |
| Location ID: | CO18-PZM006 |          |           | ug/L     |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 415,000     | 494,000  | 510,000   | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        |
| Ethylbenzene | 70.1        | 73.4     | 93.8      | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        |
| Naphthalene  | 177         | 150      | 427       | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        |
| Toluene      | 20,400      | 10,500   | 18,100    | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        |
| Xylenes      | 1,890       | 1,600    | 2,410     | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        |
| Location ID: | CO190-MWS   |          |           | ug/L     |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS          | NS       | NS        | 155,000  | 427,000  | 763,000  | 299,000   | 645,000  | 107,000  | 2,200    | 90,000    | 24,000   | 98,000   | 35,000   | 160,000   | 270,000  | 550,000  | 96,000   | 290,000   |
| Ethylbenzene | NS          | NS       | NS        | 9.5      | 40.6     | 68.6     | 21.1      | 38.9     | 7.1      | 0.5      | 0.5       | 0.5      | 0.5      | 0.5      | 0.5       | 0.5      | 0.5      | 0.5      | 0.5       |
| Naphthalene  | NS          | NS       | NS        | 97       | 74.4     | 315      | 98.1      | 173      | 25.5     | 0.5      | 0.5       | 0.5      | 0.5      | 0.5      | 330       | 0.5      | 0.5      | 320      | 0.5       |
| Toluene      | NS          | NS       | NS        | 8,510    | 28,300   | 54,400   | 15,900    | 35,200   | 6,950    | 21       | 5,100     | 420      | 4,600    | 1,600    | 10,000    | 16,000   | 35,000   | 5,300    | 14,000    |
| Xylenes      | NS          | NS       | NS        | 194      | 988      | 1,540    | 503       | 1,040    | 186      | 0.5      | 0.5       | 0.5      | 0.5      | 0.5      | 0.5       | 0.5      | 0.5      | 0.5      | 0.5       |
| Location ID: | CO191-MWS   |          |           | ug/L     |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS          | NS       | NS        | NS       | 107,000  | NS       | NS        | NS       | 104,000  | NS       | NS        | NS       | 67,000   | NS       | NS        | NS       | 34,000   | NS       | NS        |
| Ethylbenzene | NS          | NS       | NS        | NS       | 243      | NS       | NS        | NS       | 235      | NS       | NS        | NS       | 220      | NS       | NS        | NS       | 110      | NS       | NS        |
| Naphthalene  | NS          | NS       | NS        | NS       | 377      | NS       | NS        | NS       | 285      | NS       | NS        | NS       | 290      | NS       | NS        | NS       | 190      | NS       | NS        |
| Toluene      | NS          | NS       | NS        | NS       | 19,600   | NS       | NS        | NS       | 12,400   | NS       | NS        | NS       | 6,700    | NS       | NS        | NS       | 2,700    | NS       | NS        |
| Xylenes      | NS          | NS       | NS        | NS       | 2,730    | NS       | NS        | NS       | 2,480    | NS       | NS        | NS       | 2,200    | NS       | NS        | NS       | 900      | NS       | NS        |
| Location ID: | CO93-PZM    |          |           | ug/L     |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 168,000     | 183,000  | 154,000   | 249,000  | 181,000  | 159,000  | 182,000   | 156,000  | 173,000  | 180,000  | 180,000   | 150,000  | 160,000  | 170,000  | 180,000   | 140,000  | 200,000  | 170,000  | 130,000   |
| Ethylbenzene | 940         | 1,190    | 934       | 641      | 1,050    | 1,290    | 1,410     | 1,060    | 1,250    | 810      | 1,500     | 1,400    | 1,500    | 1,500    | 1,400     | 1000     | 1,400    | 1,200    | 1,200     |
| Naphthalene  | 1,850       | 6,240    | 1,740     | 1,340    | 1,840    | 6,040    | 7,200     | 1,660    | 1,870    | 2,000    | 2,200     | 2,200    | 5,400    | 1,900    | 2,100     | 1,700    | 1,900    | 1,700    | 1,700     |

U: Non-Detect,      NS: Not Sampled



| Parameter | 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 | 2/1/2023 | 6/1/2023 | 8/1/2023 | 11/1/2023 | 3/1/2024 | 6/1/2024 | 8/1/2024 | 11/1/2024 |
|-----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|
| Toluene   | 53,800   | 68,400   | 52,300    | 73,900   | 48,200   | 57,300   | 59,800    | 44,200   | 54,100   | 31,000   | 55,000    | 46,000   | 50,000   | 58,000   | 57,000    | 50,000   | 65,000   | 59,000   | 40,000    |
| Xylenes   | 12,300   | 14,600   | 8,590     | 15,000   | 10,500   | 16,800   | 15,100    | 10,700   | 14,200   | 8,800    | 17,000    | 14,000   | 15,000   | 16,000   | 17,000    | 12,000   | 17,000   | 15,000   | 13,000    |



Coke Oven Historical Data -  
Cell 2 Groundwater Analytical Results

2024

| Parameter    | 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 | 2/1/2023 | 6/1/2023 | 8/1/2023 | 11/1/2023 | 3/1/2024 | 6/1/2024 | 8/1/2024 | 11/1/2024 |
|--------------|-----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|
| Location ID: | CO179-MWS |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS        | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | 4,700    | NS       | NS        | NS       | NS       | NS       | NS        |
| Ethylbenzene | NS        | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | 230      | NS       | NS        | NS       | NS       | NS       | NS        |
| Naphthalene  | NS        | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | 1,200    | NS       | NS        | NS       | NS       | NS       | NS        |
| Toluene      | NS        | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | 2,800    | NS       | NS        | NS       | NS       | NS       | NS        |
| Xylenes      | NS        | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | 2,300    | NS       | NS        | NS       | NS       | NS       | NS        |
| Location ID: | CO180-MWI |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS        | NS       | NS        | NS       | 39,700   | NS       | NS        | NS       | 31,000   | NS       | NS        | NS       | 18,000   | NS       | NS        | NS       | NS       | NS       | NS        |
| Ethylbenzene | NS        | NS       | NS        | NS       | 159      | NS       | NS        | NS       | 140      | NS       | NS        | NS       | 78       | NS       | NS        | NS       | NS       | NS       | NS        |
| Naphthalene  | NS        | NS       | NS        | NS       | 2,540    | NS       | NS        | NS       | 1,200    | NS       | NS        | NS       | 880      | NS       | NS        | NS       | NS       | NS       | NS        |
| Toluene      | NS        | NS       | NS        | NS       | 8,700    | NS       | NS        | NS       | 7,100    | NS       | NS        | NS       | 3,900    | NS       | NS        | NS       | NS       | NS       | NS        |
| Xylenes      | NS        | NS       | NS        | NS       | 2,690    | NS       | NS        | NS       | 2,100    | NS       | NS        | NS       | 1,200    | NS       | NS        | NS       | NS       | NS       | NS        |
| Location ID: | CO180-MWS |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS        | NS       | NS        | NS       | 786      | NS       | NS        | NS       | 24,000   | NS       | NS        | NS       | 17,000   | NS       | NS        | NS       | NS       | NS       | NS        |
| Ethylbenzene | NS        | NS       | NS        | NS       | 3.7      | NS       | NS        | NS       | 110      | NS       | NS        | NS       | 86       | NS       | NS        | NS       | NS       | NS       | NS        |
| Naphthalene  | NS        | NS       | NS        | NS       | 62.7     | NS       | NS        | NS       | 930      | NS       | NS        | NS       | 1,200    | NS       | NS        | NS       | NS       | NS       | NS        |
| Toluene      | NS        | NS       | NS        | NS       | 180      | NS       | NS        | NS       | 6,500    | NS       | NS        | NS       | 4,700    | NS       | NS        | NS       | NS       | NS       | NS        |
| Xylenes      | NS        | NS       | NS        | NS       | 54.5     | NS       | NS        | NS       | 1,700    | NS       | NS        | NS       | 1,500    | NS       | NS        | NS       | NS       | NS       | NS        |
| Location ID: | CO181-MWI |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS        | NS       | NS        | NS       | 9,870    | NS       | NS        | NS       | 39,000   | NS       | NS        | NS       | 23,000   | NS       | NS        | NS       | NS       | NS       | NS        |
| Ethylbenzene | NS        | NS       | NS        | NS       | 71.5     | NS       | NS        | NS       | 210      | NS       | NS        | NS       | 120      | NS       | NS        | NS       | NS       | NS       | NS        |
| Naphthalene  | NS        | NS       | NS        | NS       | 1,320    | NS       | NS        | NS       | 2,000    | NS       | NS        | NS       | 1,800    | NS       | NS        | NS       | NS       | NS       | NS        |
| Toluene      | NS        | NS       | NS        | NS       | 2,920    | NS       | NS        | NS       | 11,000   | NS       | NS        | NS       | 5,500    | NS       | NS        | NS       | NS       | NS       | NS        |
| Xylenes      | NS        | NS       | NS        | NS       | 1,180    | NS       | NS        | NS       | 2,900    | NS       | NS        | NS       | 1,800    | NS       | NS        | NS       | NS       | NS       | NS        |
| Location ID: | CO181-MWS |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS        | NS       | NS        | NS       | 28,400   | NS       | NS        | NS       | 29,000   | NS       | NS        | NS       | 21,000   | NS       | NS        | NS       | NS       | NS       | NS        |
| Ethylbenzene | NS        | NS       | NS        | NS       | 145      | NS       | NS        | NS       | 130      | NS       | NS        | NS       | 130      | NS       | NS        | NS       | NS       | NS       | NS        |
| Naphthalene  | NS        | NS       | NS        | NS       | 3,710    | NS       | NS        | NS       | 1,700    | NS       | NS        | NS       | 1,700    | NS       | NS        | NS       | NS       | NS       | NS        |
| Toluene      | NS        | NS       | NS        | NS       | 5,810    | NS       | NS        | NS       | 6,900    | NS       | NS        | NS       | 6,300    | NS       | NS        | NS       | NS       | NS       | NS        |
| Xylenes      | NS        | NS       | NS        | NS       | 1,920    | NS       | NS        | NS       | 2,000    | NS       | NS        | NS       | 2,000    | NS       | NS        | NS       | NS       | NS       | NS        |
| Location ID: | CO182-MWI |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS        | NS       | NS        | 218,000  | 362,000  | 317,000  | 336,000   | 344,000  | 278,000  | 210,000  | 100,000   | 230,000  | 220,000  | 250,000  | NS        | NS       | NS       | NS       | 22,000    |
| Ethylbenzene | NS        | NS       | NS        | 322      | 1,020    | 911      | 1,010     | 666      | 1,040    | 800      | 400       | 980      | 1000     | 1,100    | NS        | NS       | NS       | NS       | 100       |
| Naphthalene  | NS        | NS       | NS        | 191      | 153      | 320      | 218       | 260      | 222      | 250      | 500       | 380      | 0.5      | 220      | NS        | NS       | NS       | NS       | 73        |

U: Non-Detect,      NS: Not Sampled

| Parameter    | 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 | 2/1/2023 | 6/1/2023 | 8/1/2023 | 11/1/2023 | 3/1/2024 | 6/1/2024 | 8/1/2024 | 11/1/2024 |
|--------------|-------------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|
| Toluene      | NS          | NS       | NS        | 45,700   | 60,400   | 44,000   | 40,000    | 69,400   | 26,100   | 17,000   | 7,000     | 18,000   | 16,000   | 17,000   | NS        | NS       | NS       | NS       | 2,500     |
| Xylenes      | NS          | NS       | NS        | 8,870    | 12,600   | 12,100   | 12,900    | 17,600   | 8,980    | 6,300    | 3,600     | 9,200    | 8,900    | 9,500    | NS        | NS       | NS       | NS       | 1,300     |
| Location ID: | CO186-MWS   |          |           | ug/L     |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS          | NS       | NS        | NS       | 47,100   | NS       | NS        | NS       | 31,600   | NS       | NS        | NS       | 9,500    | NS       | NS        | NS       | NS       | NS       | 140,000   |
| Ethylbenzene | NS          | NS       | NS        | NS       | 119      | NS       | NS        | NS       | 59.7     | NS       | NS        | NS       | 22       | NS       | NS        | NS       | NS       | NS       | 240       |
| Naphthalene  | NS          | NS       | NS        | NS       | 31.7     | NS       | NS        | NS       | 8        | NS       | NS        | NS       | 0.5      | NS       | NS        | NS       | NS       | NS       | 0.5       |
| Toluene      | NS          | NS       | NS        | NS       | 14,600   | NS       | NS        | NS       | 6,090    | NS       | NS        | NS       | 460      | NS       | NS        | NS       | NS       | NS       | 37,000    |
| Xylenes      | NS          | NS       | NS        | NS       | 2,140    | NS       | NS        | NS       | 976      | NS       | NS        | NS       | 150      | NS       | NS        | NS       | NS       | NS       | 4,200     |
| Location ID: | CO209-MWI   |          |           | ug/L     |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS          | NS       | NS        | NS       | 1,120    | NS       | NS        | NS       | 1,910    | NS       | NS        | NS       | 2,300    | NS       | NS        | NS       | NS       | NS       | NS        |
| Ethylbenzene | NS          | NS       | NS        | NS       | 45.2     | NS       | NS        | NS       | 82       | NS       | NS        | NS       | 71       | NS       | NS        | NS       | NS       | NS       | NS        |
| Naphthalene  | NS          | NS       | NS        | NS       | 11,100   | NS       | NS        | NS       | 18,500   | NS       | NS        | NS       | 13,000   | NS       | NS        | NS       | NS       | NS       | NS        |
| Toluene      | NS          | NS       | NS        | NS       | 2.6      | NS       | NS        | NS       | 5.1      | NS       | NS        | NS       | 340      | NS       | NS        | NS       | NS       | NS       | NS        |
| Xylenes      | NS          | NS       | NS        | NS       | 32.3     | NS       | NS        | NS       | 56.5     | NS       | NS        | NS       | 140      | NS       | NS        | NS       | NS       | NS       | NS        |
| Location ID: | CO209-MWS   |          |           | ug/L     |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS          | NS       | NS        | NS       | 12.7     | NS       | NS        | NS       | 12.8     | NS       | NS        | NS       | 180      | NS       | NS        | NS       | NS       | NS       | NS        |
| Ethylbenzene | NS          | NS       | NS        | NS       | 2.1      | NS       | NS        | NS       | 0.5      | NS       | NS        | NS       | 5.7      | NS       | NS        | NS       | NS       | NS       | NS        |
| Naphthalene  | NS          | NS       | NS        | NS       | 3,940    | NS       | NS        | NS       | 1,730    | NS       | NS        | NS       | 2,400    | NS       | NS        | NS       | NS       | NS       | NS        |
| Toluene      | NS          | NS       | NS        | NS       | 5.2      | NS       | NS        | NS       | 3.8      | NS       | NS        | NS       | 170      | NS       | NS        | NS       | NS       | NS       | NS        |
| Xylenes      | NS          | NS       | NS        | NS       | 18.8     | NS       | NS        | NS       | 11.9     | NS       | NS        | NS       | 82       | NS       | NS        | NS       | NS       | NS       | NS        |
| Location ID: | CO27-PZM012 |          |           | ug/L     |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 3,700       | 9,470    | 7,750     | 12,700   | 9,230    | 8,490    | 8,340     | 11,000   | 13,000   | 8,700    | 12,000    | 14,000   | 15,000   | 5,500    | 13,000    | 10,000   | NS       | 10,000   | 7,900     |
| Ethylbenzene | 39.1        | 86.5     | 47.4      | 28.2     | 64.5     | 101      | 98.9      | 116      | 180      | 100      | 160       | 170      | 180      | 64       | 170       | 110      | NS       | 120      | 84        |
| Naphthalene  | 365         | 609      | 256       | 1,120    | 383      | 793      | 661       | 645      | 870      | 820      | 1,100     | 1,100    | 1,200    | 470      | 1,100     | 760      | NS       | 570      | 450       |
| Toluene      | 653         | 3,400    | 1,070     | 1,060    | 2,680    | 2,750    | 2,430     | 3,080    | 5,200    | 3,200    | 4,600     | 4,500    | 5,200    | 1,100    | 4,900     | 3,500    | NS       | 2,700    | 2,600     |
| Xylenes      | 299         | 746      | 369       | 234      | 777      | 843      | 795       | 1000     | 1,400    | 880      | 1,400     | 1,500    | 1,600    | 480      | 1,400     | 940      | NS       | 920      | 700       |
| Location ID: | CO27-PZM046 |          |           | ug/L     |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 28,200      | 18,800   | 18,400    | 22,300   | 15,600   | 8,620    | 18,700    | 19,800   | 17,000   | 13,000   | 12,000    | 34,000   | 16,000   | 19,000   | 50,000    | 52,000   | NS       | 14,000   | 11,000    |
| Ethylbenzene | 207         | 95       | 81.4      | 46.6     | 202      | 107      | 247       | 263      | 240      | 190      | 160       | 260      | 180      | 180      | 260       | 280      | NS       | 140      | 140       |
| Naphthalene  | 1,120       | 516      | 327       | 290      | 847      | 3,680    | 1,450     | 4,460    | 950      | 1,200    | 930       | 1,100    | 1000     | 910      | 1000      | 750      | NS       | 700      | 840       |
| Toluene      | 5,620       | 3,270    | 5,120     | 1,450    | 5,560    | 2,650    | 6,180     | 7,000    | 6,800    | 5,600    | 4,400     | 5,800    | 4,600    | 4,200    | 5,000     | 6,600    | NS       | 4,600    | 4,000     |
| Xylenes      | 1,640       | 1,240    | 843       | 486      | 1,460    | 1,060    | 2,070     | 1,810    | 1,800    | 1,600    | 1,400     | 2,000    | 1,400    | 1,400    | 1,600     | 1,800    | NS       | 1,200    | 1,200     |
| Location ID: | CO28-PZM010 |          |           | ug/L     |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS          | NS       | NS        | NS       | 1        | NS       | NS        | NS       | 15       | NS       | NS        | NS       | 0.19     | NS       | NS        | NS       | NS       | NS       | NS        |
| Ethylbenzene | NS          | NS       | NS        | NS       | 0.5      | NS       | NS        | NS       | 0.5      | NS       | NS        | NS       | 0.5      | NS       | NS        | NS       | NS       | NS       | NS        |
| Naphthalene  | NS          | NS       | NS        | NS       | 0.5      | NS       | NS        | NS       | 0.36     | NS       | NS        | NS       | 0.5      | NS       | NS        | NS       | NS       | NS       | NS        |
| Toluene      | NS          | NS       | NS        | NS       | 0.5      | NS       | NS        | NS       | 0.58     | NS       | NS        | NS       | 0.5      | NS       | NS        | NS       | NS       | NS       | NS        |
| Xylenes      | NS          | NS       | NS        | NS       | 0.5      | NS       | NS        | NS       | 0.5      | NS       | NS        | NS       | 0.5      | NS       | NS        | NS       | NS       | NS       | NS        |

U: Non-Detect,      NS: Not Sampled

| Parameter    | 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 | 2/1/2023 | 6/1/2023 | 8/1/2023 | 11/1/2023 | 3/1/2024 | 6/1/2024 | 8/1/2024 | 11/1/2024 |
|--------------|-------------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|
| Location ID: | CO28-PZM048 |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS          | NS       | NS        | NS       | 128,000  | NS       | NS        | NS       | 150,000  | NS       | NS        | NS       | 93,000   | NS       | NS        | NS       | NS       | NS       | NS        |
| Ethylbenzene | NS          | NS       | NS        | NS       | 290      | NS       | NS        | NS       | 450      | NS       | NS        | NS       | 260      | NS       | NS        | NS       | NS       | NS       | NS        |
| Naphthalene  | NS          | NS       | NS        | NS       | 2,750    | NS       | NS        | NS       | 4,100    | NS       | NS        | NS       | 1,600    | NS       | NS        | NS       | NS       | NS       | NS        |
| Toluene      | NS          | NS       | NS        | NS       | 5,670    | NS       | NS        | NS       | 3,800    | NS       | NS        | NS       | 1,900    | NS       | NS        | NS       | NS       | NS       | NS        |
| Xylenes      | NS          | NS       | NS        | NS       | 5,850    | NS       | NS        | NS       | 7,500    | NS       | NS        | NS       | 4,800    | NS       | NS        | NS       | NS       | NS       | NS        |
| Location ID: | CO36-PZM008 |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 10,000      | 24,000   | 11,900    | 9,050    | 38,700   | 17,700   | 20,400    | 19,000   | 5,360    | 9,900    | 9,100     | 14,000   | 11,000   | 15,000   | NS        | NS       | NS       | NS       | NS        |
| Ethylbenzene | 46.1        | 99.6     | 45.4      | 18.7     | 61       | 61       | 89.5      | 17.1     | 17.9     | 53       | 36        | 66       | 48       | 60       | NS        | NS       | NS       | NS       | NS        |
| Naphthalene  | 456         | 817      | 583       | 378      | 540      | 769      | 943       | 233      | 226      | 560      | 420       | 700      | 410      | 530      | NS        | NS       | NS       | NS       | NS        |
| Toluene      | 2,430       | 5,800    | 2,750     | 1,570    | 8,940    | 4,160    | 4,460     | 1,510    | 1,350    | 2,700    | 2,000     | 3,300    | 2,300    | 3,200    | NS        | NS       | NS       | NS       | NS        |
| Xylenes      | 834         | 1,670    | 1,090     | 659      | 1,250    | 988      | 1,510     | 672      | 398      | 890      | 740       | 1,300    | 780      | 970      | NS        | NS       | NS       | NS       | NS        |
| Location ID: | CO36-PZM043 |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 16,400      | 7,910    | 22,000    | 2,750    | 14,100   | 22,800   | 26,700    | 55,700   | 15,100   | 20,000   | 16,000    | 17,000   | 12,000   | 16,000   | NS        | NS       | NS       | NS       | NS        |
| Ethylbenzene | 45.5        | 13.1     | 45.8      | 0.5      | 5.3      | 42.9     | 56.2      | 58.2     | 40.7     | 51       | 46        | 58       | 39       | 46       | NS        | NS       | NS       | NS       | NS        |
| Naphthalene  | 566         | 191      | 527       | 131      | 187      | 835      | 667       | 433      | 530      | 720      | 560       | 640      | 630      | 550      | NS        | NS       | NS       | NS       | NS        |
| Toluene      | 2,330       | 1,130    | 3,110     | 263      | 841      | 3,160    | 3,710     | 8,150    | 2,050    | 2,800    | 2,200     | 2,200    | 1,900    | 2,100    | NS        | NS       | NS       | NS       | NS        |
| Xylenes      | 675         | 375      | 730       | 134      | 287      | 711      | 855       | 838      | 612      | 740      | 640       | 810      | 580      | 660      | NS        | NS       | NS       | NS       | NS        |
| Location ID: | CO37-PZM003 |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS          | NS       | NS        | NS       | 7,120    | NS       | NS        | NS       | 7,050    | NS       | NS        | NS       | 7,600    | 24       | 4,200     | 66       | NS       | NS       | NS        |
| Ethylbenzene | NS          | NS       | NS        | NS       | 133      | NS       | NS        | NS       | 125      | NS       | NS        | NS       | 110      | 2.9      | 25        | 5.3      | NS       | NS       | NS        |
| Naphthalene  | NS          | NS       | NS        | NS       | 1,270    | NS       | NS        | NS       | 1,050    | NS       | NS        | NS       | 730      | 9.1      | 200       | 75       | NS       | NS       | NS        |
| Toluene      | NS          | NS       | NS        | NS       | 3,000    | NS       | NS        | NS       | 2,840    | NS       | NS        | NS       | 3,100    | 42       | 1,200     | 52       | NS       | NS       | NS        |
| Xylenes      | NS          | NS       | NS        | NS       | 1,310    | NS       | NS        | NS       | 1,410    | NS       | NS        | NS       | 1,300    | 30       | 340       | 77       | NS       | NS       | NS        |
| Location ID: | CO37-PZM038 |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 14,200      | 16,300   | 16,900    | 16,400   | 16,000   | 16,000   | 17,800    | 33,700   | 19,100   | 16,000   | 11,000    | 12,000   | 14,000   | 12,000   | 12,000    | 17,000   | NS       | NS       | NS        |
| Ethylbenzene | 268         | 273      | 262       | 217      | 268      | 281      | 279       | 257      | 249      | 240      | 220       | 220      | 220      | 210      | 180       | 230      | NS       | NS       | NS        |
| Naphthalene  | 1,770       | 1,430    | 1,200     | 1,210    | 1,850    | 15,600   | 1,590     | 1,560    | 954      | 1,300    | 1,300     | 1,400    | 1,100    | 1,500    | 1,100     | 1,300    | NS       | NS       | NS        |
| Toluene      | 8,780       | 8,330    | 8,370     | 8,710    | 8,240    | 8,350    | 10,300    | 17,600   | 9,480    | 7,800    | 6,500     | 6,800    | 7,000    | 6,300    | 6,000     | 7,800    | NS       | NS       | NS        |
| Xylenes      | 2,220       | 2,260    | 2,160     | 1,910    | 2,320    | 2,420    | 2,370     | 2,130    | 1,970    | 2,000    | 1,900     | 1,900    | 2,000    | 1,800    | 1,500     | 2,000    | NS       | NS       | NS        |
| Location ID: | CO38-PZM006 |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 4,670       | 4,370    | 5,420     | 9,970    | 4,110    | 4,500    | 5,070     | 5,230    | 9,100    | 3,400    | 3,300     | 4,600    | 2,900    | 2,800    | NS        | NS       | NS       | NS       | NS        |
| Ethylbenzene | 64          | 57.5     | 54.3      | 52       | 46.1     | 59.3     | 58.7      | 56.4     | 52.4     | 38       | 44        | 56       | 34       | 29       | NS        | NS       | NS       | NS       | NS        |
| Naphthalene  | 1,990       | 1,460    | 1,360     | 1,140    | 981      | 1,620    | 1,660     | 1,180    | 1,570    | 890      | 800       | 1,200    | 730      | 590      | NS        | NS       | NS       | NS       | NS        |
| Toluene      | 1,070       | 984      | 1,300     | 1,080    | 800      | 871      | 1,130     | 1,210    | 936      | 400      | 630       | 920      | 390      | 470      | NS        | NS       | NS       | NS       | NS        |
| Xylenes      | 503         | 450      | 452       | 420      | 373      | 446      | 462       | 464      | 409      | 260      | 320       | 450      | 240      | 200      | NS        | NS       | NS       | NS       | NS        |
| Location ID: | CO38-PZM043 |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |

| Parameter    | 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 | 2/1/2023 | 6/1/2023 | 8/1/2023 | 11/1/2023 | 3/1/2024 | 6/1/2024 | 8/1/2024 | 11/1/2024 |
|--------------|-----------------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|
| Benzene      | 1.1             | 0.5      | 0.5       | 0.5      | 1.8      | 0.76     | 0.5       | 0.5      | 1        | 2        | 0.5       | 0.19     | 1.3      | 0.71     | NS        | NS       | NS       | NS       | NS        |
| Ethylbenzene | 0.5             | 0.5      | 0.5       | 0.5      | 0.5      | 0.5      | 0.5       | 0.5      | 0.5      | 0.5      | 0.5       | 0.5      | 0.5      | 0.5      | NS        | NS       | NS       | NS       | NS        |
| Naphthalene  | 0.5             | 0.5      | 0.5       | 0.5      | 9.4      | 0.5      | 0.5       | 0.5      | 0.5      | 0.5      | 0.68      | 0.28     | 0.5      | 0.5      | NS        | NS       | NS       | NS       | NS        |
| Toluene      | 0.5             | 0.5      | 0.5       | 0.5      | 0.35     | 0.5      | 0.5       | 0.5      | 0.5      | 0.89     | 0.5       | 0.5      | 0.5      | 0.5      | NS        | NS       | NS       | NS       | NS        |
| Xylenes      | 0.5             | 0.5      | 0.5       | 0.5      | 0.5      | 0.5      | 0.5       | 2.1      | 0.5      | 0.82     | 0.6       | 0.73     | 0.96     | 0.7      | NS        | NS       | NS       | NS       | NS        |
| Location ID: | CO39-PZM007ug/L |          |           |          |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 455             | 3,850    | 515       | 249      | 3,120    | 7,320    | NS        | 891      | 486      | 1000     | 1,300     | 500      | 530      | NS       | NS        | NS       | NS       | NS       | NS        |
| Ethylbenzene | 2               | 32.2     | 0.5       | 0.5      | 6.9      | 21.8     | 39.5      | 3.8      | 0.5      | 4.6      | 7         | 3.3      | 2.7      | NS       | NS        | NS       | NS       | NS       | NS        |
| Naphthalene  | 251             | 1,550    | 548       | 171      | 353      | 1,020    | 1,340     | 177      | 125      | 460      | 420       | 280      | 190      | NS       | NS        | NS       | NS       | NS       | NS        |
| Toluene      | 45              | 1,230    | 27.2      | 12.2     | 487      | 1,080    | 1,640     | 123      | 36.8     | 140      | 160       | 66       | 65       | NS       | NS        | NS       | NS       | NS       | NS        |
| Xylenes      | 11.9            | 265      | 6.8       | 0.5      | 58       | 195      | 374       | 35       | 8.7      | 35       | 52        | 30       | 18       | NS       | NS        | NS       | NS       | NS       | NS        |
| Location ID: | CO39-PZM042ug/L |          |           |          |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 3,080           | 735      | 2,570     | 10,300   | 12,000   | 8,640    | 9,520     | 3,690    | 6,810    | 6,300    | 5,900     | 3,400    | 5,800    | 4,200    | NS        | NS       | NS       | NS       | NS        |
| Ethylbenzene | 22.3            | 4.3      | 21.9      | 102      | 68       | 59       | 70.4      | 21.6     | 21.3     | 70       | 38        | 25       | 62       | 49       | NS        | NS       | NS       | NS       | NS        |
| Naphthalene  | 1,090           | 722      | 1,420     | 705      | 1,270    | 1,590    | 1,420     | 666      | 1,870    | 1,600    | 1,200     | 790      | 1000     | 870      | NS        | NS       | NS       | NS       | NS        |
| Toluene      | 882             | 105      | 960       | 3,450    | 3,150    | 1,920    | 2,150     | 563      | 846      | 2,300    | 1,200     | 810      | 1,900    | 1,400    | NS        | NS       | NS       | NS       | NS        |
| Xylenes      | 187             | 27.4     | 182       | 869      | 624      | 503      | 595       | 174      | 196      | 580      | 320       | 210      | 500      | 390      | NS        | NS       | NS       | NS       | NS        |
| Location ID: | CO40-PZM008ug/L |          |           |          |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 629             | 799      | 1,450     | 1,450    | 5,050    | 664      | NS        | 2,360    | 3,740    | 8,300    | 5,400     | 5,600    | 9,400    | 740      | NS        | NS       | NS       | NS       | NS        |
| Ethylbenzene | 5.8             | 5.7      | 4         | 8.7      | 61.3     | 3.5      | 20.8      | 18       | 21.3     | 80       | 53        | 55       | 110      | 5.6      | NS        | NS       | NS       | NS       | NS        |
| Naphthalene  | 335             | 179      | 303       | 1,220    | 2,260    | 336      | 1,570     | 3,720    | 1,600    | 1,100    | 1,900     | 1,400    | 1,100    | 150      | NS        | NS       | NS       | NS       | NS        |
| Toluene      | 134             | 145      | 78        | 197      | 712      | 75.7     | 291       | 337      | 546      | 1,900    | 1,100     | 1,700    | 3,100    | 110      | NS        | NS       | NS       | NS       | NS        |
| Xylenes      | 44.7            | 35.9     | 64.4      | 68.1     | 367      | 25.1     | 153       | 154      | 186      | 490      | 410       | 400      | 700      | 44       | NS        | NS       | NS       | NS       | NS        |
| Location ID: | CO41-PZM001ug/L |          |           |          |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 546             | 43.8     | 5.8       | 7.3      | 1,740    | 124      | 17,400    | 2,130    | 1,880    | 18,000   | 29,000    | 21,000   | 14,000   | 690      | 11,000    | 56       | 550      | 2,000    | 280,000   |
| Ethylbenzene | 45.8            | 3.1      | 0.5       | 0.52     | 85.8     | 3.6      | 564       | 63.2     | 53.3     | 660      | 640       | 710      | 360      | 14       | 130       | 1.7      | 3        | 27       | 830       |
| Naphthalene  | 30.5            | 0.5      | 0.5       | 14.3     | 29.3     | 3.4      | 332       | 23.2     | 22.5     | 440      | 340       | 320      | 130      | 11       | 49        | 0.29     | 3.1      | 10       | 0.5       |
| Toluene      | 553             | 17       | 6.7       | 2.2      | 1,200    | 44.5     | 11,200    | 1,230    | 1,110    | 11,000   | 13,000    | 14,000   | 8,100    | 180      | 3,200     | 7.5      | 29       | 590      | 90,000    |
| Xylenes      | 413             | 14.6     | 2.6       | 1.4      | 760      | 25.2     | 5,190     | 524      | 421      | 6,800    | 6,600     | 7,000    | 3,400    | 110      | 1,300     | 3.6      | 13       | 240      | 17,000    |
| Location ID: | CO41-PZM036ug/L |          |           |          |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 206,000         | 231,000  | 251,000   | 288,000  | 283,000  | 272,000  | 351,000   | 447,000  | 230,000  | 200,000  | 190,000   | 220,000  | 250,000  | 290,000  | 180,000   | 290,000  | 290,000  | 320,000  | 35,000    |
| Ethylbenzene | 661             | 657      | 684       | 628      | 6.2      | 774      | 880       | 732      | 1,020    | 870      | 930       | 800      | 800      | 990      | 520       | 970      | 740      | 1,100    | 760       |
| Naphthalene  | 325             | 295      | 357       | 370      | 195      | 418      | 290       | 298      | 336      | 0.5      | 680       | 0.5      | 0.5      | 770      | 390       | 260      | 580      | 0.5      | 330       |
| Toluene      | 67,600          | 71,100   | 76,200    | 168,000  | 893      | 90,700   | 118,000   | 614,000  | 99,600   | 82,000   | 76,000    | 78,000   | 87,000   | 94,000   | 57,000    | 100,000  | 84,000   | 100,000  | 18,000    |
| Xylenes      | 13,500          | 13,600   | 14,500    | 28,300   | 308      | 16,700   | 27,300    | 129,000  | 20,600   | 17,000   | 19,000    | 15,000   | 14,000   | 18,000   | 10,000    | 19,000   | 13,000   | 21,000   | 8,600     |
| Location ID: | CO42-PZM004ug/L |          |           |          |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 3               | 187      | 6.1       | 0.5      | 15.9     | 59.4     | 169       | 3.4      | 30.7     | 160      | 90        | 1.7      | 140      | NS       | 580       | 0.78     | NS       | NS       | NS        |
| Ethylbenzene | 0.5             | 42.1     | 2.1       | 0.5      | 4.3      | 14.7     | 30.2      | 0.5      | 4        | 14       | 15        | 0.3      | 19       | NS       | 56        | 0.5      | NS       | NS       | NS        |

U: Non-Detect,      NS: Not Sampled

| Parameter    | 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 | 2/1/2023 | 6/1/2023 | 8/1/2023 | 11/1/2023 | 3/1/2024 | 6/1/2024 | 8/1/2024 | 11/1/2024 |
|--------------|---------------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|
| Naphthalene  | 9.7           | 154      | 4.9       | 0.5      | 9.3      | 66.7     | 109       | 0.5      | 14.6     | 73       | 70        | 0.7      | 65       | NS       | 170       | 0.5      | NS       | NS       | NS        |
| Toluene      | 2.9           | 462      | 7         | 0.5      | 24.4     | 48.7     | 36        | 6.5      | 26.5     | 270      | 77        | 4.1      | 160      | NS       | 190       | 0.69     | NS       | NS       | NS        |
| Xylenes      | 7.4           | 286      | 9.2       | 0.5      | 37.2     | 84.9     | 129       | 2.6      | 26.9     | 150      | 120       | 2.8      | 140      | NS       | 290       | 0.5      | NS       | NS       | NS        |
| Location ID: | GD01-MWI ug/L |          |           |          |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS            | NS       | NS        | NS       | 10       | 10.3     | 16.9      | NS       | 19       | NS       | 11        | NS       | 5.2      | NS       | 3.4       | NS       | NS       | NS       | 30        |
| Ethylbenzene | NS            | NS       | NS        | NS       | 0.5      | 0.5      | 0.5       | NS       | 0.5      | NS       | 0.5       | NS       | 0.5      | NS       | 0.5       | NS       | NS       | NS       | 0.5       |
| Naphthalene  | NS            | NS       | NS        | NS       | 0.5      | 0.5      | 0.5       | NS       | 0.5      | NS       | 0.35      | NS       | 0.39     | NS       | 0.25      | NS       | NS       | NS       | 0.38      |
| Toluene      | NS            | NS       | NS        | NS       | 0.5      | 0.5      | 0.41      | NS       | 0.5      | NS       | 0.42      | NS       | 0.5      | NS       | 2.9       | NS       | NS       | NS       | 0.5       |
| Xylenes      | NS            | NS       | NS        | NS       | 0.5      | 0.5      | 0.5       | NS       | 0.5      | NS       | 0.5       | NS       | 0.5      | NS       | 1.3       | NS       | NS       | NS       | 0.5       |
| Location ID: | GD02-MWI ug/L |          |           |          |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS            | NS       | NS        | NS       | 78,200   | 71,200   | 127,000   | NS       | 87,000   | NS       | 150,000   | NS       | 29,000   | NS       | 150,000   | NS       | NS       | NS       | 210,000   |
| Ethylbenzene | NS            | NS       | NS        | NS       | 452      | 344      | 546       | NS       | 460      | NS       | 420       | NS       | 60       | NS       | 320       | NS       | NS       | NS       | 460       |
| Naphthalene  | NS            | NS       | NS        | NS       | 1,840    | 3,530    | 1,910     | NS       | 1,200    | NS       | 680       | NS       | 79       | NS       | 660       | NS       | NS       | NS       | 570       |
| Toluene      | NS            | NS       | NS        | NS       | 24       | 84.7     | 339       | NS       | 0.5      | NS       | 2,000     | NS       | 890      | NS       | 5,400     | NS       | NS       | NS       | 3,600     |
| Xylenes      | NS            | NS       | NS        | NS       | 575      | 208      | 327       | NS       | 0.5      | NS       | 1,500     | NS       | 320      | NS       | 1,400     | NS       | NS       | NS       | 1,400     |





Coke Oven Historical Data -  
Cell 3 Groundwater Analytical Results

2024

| Parameter    | 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 | 2/1/2023 | 6/1/2023 | 8/1/2023 | 11/1/2023 | 3/1/2024 | 6/1/2024 | 8/1/2024 | 11/1/2024 |
|--------------|-------------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|
| Location ID: | CO194-MWS   |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS          | NS       | NS        | NS       | 800      | 823      | 944       | NS       | 617      | NS       | 740       | NS       | 600      | NS       | 98        | NS       | 320      | NS       | 370       |
| Ethylbenzene | NS          | NS       | NS        | NS       | 4.5      | 5.2      | 5         | NS       | 4.1      | NS       | 4.1       | NS       | 6.3      | NS       | 0.79      | NS       | 2.4      | NS       | 3         |
| Naphthalene  | NS          | NS       | NS        | NS       | 2,240    | 7,540    | 3,260     | NS       | 2,960    | NS       | 2,900     | NS       | 1,900    | NS       | 470       | NS       | 760      | NS       | 1,400     |
| Toluene      | NS          | NS       | NS        | NS       | 108      | 119      | 144       | NS       | 105      | NS       | 120       | NS       | 130      | NS       | 19        | NS       | 65       | NS       | 75        |
| Xylenes      | NS          | NS       | NS        | NS       | 60.4     | 65.9     | 73.9      | NS       | 57.6     | NS       | 65        | NS       | 78       | NS       | 9.6       | NS       | 34       | NS       | 39        |
| Location ID: | CO195-MWS   |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS          | NS       | NS        | 67,300   | 18,000   | 53,900   | 59,000    | 49,000   | 105,000  | 38,000   | 41,000    | 47,000   | 41,000   | 45,000   | 30,000    | 17,000   | 22,000   | 30,000   | 24,000    |
| Ethylbenzene | NS          | NS       | NS        | 69.6     | 21.8     | 76.2     | 82.3      | 76       | 66.3     | 0.5      | 0.5       | 96       | 0.5      | 73       | 55        | 34       | 43       | 58       | 43        |
| Naphthalene  | NS          | NS       | NS        | 1,650    | 493      | 3,940    | 2,400     | 2,760    | 1,340    | 1,900    | 1,500     | 2,300    | 2,200    | 1,600    | 2,000     | 1,200    | 1,300    | 1,700    | 1,300     |
| Toluene      | NS          | NS       | NS        | 5,540    | 1,220    | 3,350    | 4,340     | 3,860    | 7,600    | 3,100    | 3,000     | 3,800    | 3,400    | 3,100    | 2,700     | 1,400    | 1,900    | 2,400    | 1,900     |
| Xylenes      | NS          | NS       | NS        | 930      | 305      | 980      | 1,160     | 1,160    | 855      | 860      | 780       | 1,100    | 1,100    | 830      | 700       | 400      | 550      | 720      | 520       |
| Location ID: | CO196-MWS   |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS          | NS       | NS        | NS       | 24,400   | 13,200   | 16,500    | NS       | 20,300   | NS       | 7,300     | NS       | 6,000    | NS       | 2,500     | NS       | 3,900    | NS       | 3,200     |
| Ethylbenzene | NS          | NS       | NS        | NS       | 26.7     | 20.9     | 21.8      | NS       | 15.1     | NS       | 15        | NS       | 14       | NS       | 6.1       | NS       | 11       | NS       | 7.6       |
| Naphthalene  | NS          | NS       | NS        | NS       | 591      | 1,190    | 969       | NS       | 541      | NS       | 460       | NS       | 600      | NS       | 320       | NS       | 550      | NS       | 330       |
| Toluene      | NS          | NS       | NS        | NS       | 1,370    | 836      | 1,080     | NS       | 670      | NS       | 500       | NS       | 490      | NS       | 200       | NS       | 290      | NS       | 220       |
| Xylenes      | NS          | NS       | NS        | NS       | 329      | 239      | 240       | NS       | 189      | NS       | 160       | NS       | 160      | NS       | 74        | NS       | 110      | NS       | 82        |
| Location ID: | CO198-MWS   |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS          | NS       | NS        | NS       | 677      | 636      | 697       | NS       | 282      | NS       | 280       | NS       | 190      | NS       | 310       | NS       | 280      | NS       | 230       |
| Ethylbenzene | NS          | NS       | NS        | NS       | 5.4      | 4.7      | 5.7       | NS       | 2.6      | NS       | 2.3       | NS       | 1.7      | NS       | 0.5       | NS       | 2.6      | NS       | 1.8       |
| Naphthalene  | NS          | NS       | NS        | NS       | 5,590    | 17,000   | 3,490     | NS       | 1,320    | NS       | 2,000     | NS       | 1,300    | NS       | 1,900     | NS       | 1,700    | NS       | 1,600     |
| Toluene      | NS          | NS       | NS        | NS       | 115      | 111      | 129       | NS       | 65.1     | NS       | 62        | NS       | 42       | NS       | 79        | NS       | 72       | NS       | 55        |
| Xylenes      | NS          | NS       | NS        | NS       | 62.5     | 60.3     | 66.1      | NS       | 37.4     | NS       | 36        | NS       | 22       | NS       | 34        | NS       | 34       | NS       | 26        |
| Location ID: | CO201-MWS   |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS          | NS       | NS        | NS       | 2,420    | 3,880    | 13,900    | NS       | 2,280    | NS       | 1,800     | NS       | 1,100    | NS       | 330       | NS       | 42       | NS       | 600       |
| Ethylbenzene | NS          | NS       | NS        | NS       | 5.3      | 6.5      | 19.7      | NS       | 6        | NS       | 4.1       | NS       | 3.9      | NS       | 0.94      | NS       | 0.21     | NS       | 1.1       |
| Naphthalene  | NS          | NS       | NS        | NS       | 276      | 692      | 702       | NS       | 227      | NS       | 240       | NS       | 180      | NS       | 44        | NS       | 11       | NS       | 74        |
| Toluene      | NS          | NS       | NS        | NS       | 266      | 272      | 904       | NS       | 189      | NS       | 120       | NS       | 79       | NS       | 6.9       | NS       | 2        | NS       | 27        |
| Xylenes      | NS          | NS       | NS        | NS       | 93.1     | 106      | 245       | NS       | 89.8     | NS       | 70        | NS       | 56       | NS       | 11        | NS       | 3.1      | NS       | 14        |
| Location ID: | CO30-PZM015 |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 59,300      | 66,400   | 75,800    | 98,700   | 64,000   | 678      | 57,000    | 62,800   | 134,000  | 54,000   | 62,000    | 50,000   | 43,000   | 56,000   | 40,000    | 34,000   | 32,000   | 23,000   | 38,000    |
| Ethylbenzene | 93.9        | 89.7     | 130       | 105      | 95.2     | 0.5      | 94.6      | 107      | 96.1     | 120      | 110       | 110      | 87       | 110      | 72        | 76       | 75       | 45       | 76        |
| Naphthalene  | 2,320       | 1,830    | 3,130     | 8,420    | 1,790    | 542      | 2,300     | 4,810    | 1,650    | 2,100    | 2,000     | 2,600    | 2,000    | 2,300    | 2,000     | 2,100    | 1,800    | 1,400    | 1,800     |

U: Non-Detect,      NS: Not Sampled

| Parameter    | 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 | 2/1/2023 | 6/1/2023 | 8/1/2023 | 11/1/2023 | 3/1/2024 | 6/1/2024 | 8/1/2024 | 11/1/2024 |
|--------------|------------------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|
| Toluene      | 4,100            | 4,800    | 5,550     | 7,990    | 16,300   | 49.1     | 4,650     | 5,720    | 9,830    | 4,300    | 4,400     | 3,900    | 3,200    | 4,000    | 3,000     | 2,700    | 2,600    | 1,900    | 3,200     |
| Xylenes      | 1,310            | 1,200    | 1,910     | 1,480    | 1,360    | 17.9     | 1,380     | 1,670    | 1,250    | 1,500    | 1,300     | 1,400    | 1,100    | 1,300    | 920       | 910      | 950      | 510      | 990       |
| Location ID: | CO30-PZM060 ug/L |          |           |          |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 7.5              | 15       | 19.5      | NS       | 9.2      | NS       | NS        | NS       | 4.4      | NS       | NS        | NS       | 7.5      | NS       | NS        | NS       | 99       | NS       | NS        |
| Ethylbenzene | 0.5              | 0.5      | 0.5       | NS       | 1.9      | NS       | NS        | NS       | 0.5      | NS       | NS        | NS       | 0.5      | NS       | NS        | NS       | 0.33     | NS       | NS        |
| Naphthalene  | 0.5              | 0.5      | 0.5       | NS       | 1.3      | NS       | NS        | NS       | 0.5      | NS       | NS        | NS       | 0.5      | NS       | NS        | NS       | 5.3      | NS       | NS        |
| Toluene      | 0.5              | 0.5      | 0.5       | NS       | 23.3     | NS       | NS        | NS       | 0.5      | NS       | NS        | NS       | 0.5      | NS       | NS        | NS       | 6.7      | NS       | NS        |
| Xylenes      | 0.5              | 0.5      | 0.5       | NS       | 11.2     | NS       | NS        | NS       | 0.5      | NS       | NS        | NS       | 0.5      | NS       | NS        | NS       | 3.3      | NS       | NS        |



Coke Oven Historical Data -  
Cell 5 Groundwater Analytical Results

2024

| Parameter    | 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 | 2/1/2023 | 6/1/2023 | 8/1/2023 | 11/1/2023 | 3/1/2024 | 6/1/2024 | 8/1/2024 | 11/1/2024 |
|--------------|-------------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|
| Location ID: | CO206R-MWS  |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS          | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | 140      | 230      | 260      | 260       |
| Ethylbenzene | NS          | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | 7.9      | 8.5      | 10       | 8.2       |
| Naphthalene  | NS          | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | 2,900    | 2,300    | 1,800    | 1,800     |
| Toluene      | NS          | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | 51       | 87       | 110      | 120       |
| Xylenes      | NS          | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | 200      | 190      | 210      | 170       |
| Location ID: | CO23-PZM008 |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 431         | 473      | 495       | 489      | 567      | 377      | 606       | 533      | 510      | 450      | 580       | 580      | 410      | 320      | 320       | 410      | 840      | 390      | 380       |
| Ethylbenzene | 21.3        | 18.6     | 24.7      | 25       | 31.5     | 23.3     | 32.6      | 27.4     | 27       | 24       | 27        | 30       | 24       | 20       | 16        | 24       | 24       | 21       | 21        |
| Naphthalene  | 3,200       | 1,860    | 2,460     | 4,090    | 2,770    | 4,450    | 4,120     | 2,900    | 3,100    | 3,500    | 4,500     | 4,100    | 4,000    | 2,900    | 2,600     | 3,200    | 3,800    | 3,200    | 3,200     |
| Toluene      | 201         | 172      | 244       | 293      | 357      | 217      | 343       | 324      | 260      | 280      | 310       | 330      | 240      | 70       | 150       | 220      | 540      | 190      | 210       |
| Xylenes      | 363         | 289      | 399       | 434      | 539      | 374      | 525       | 457      | 510      | 420      | 480       | 520      | 390      | 320      | 270       | 390      | 420      | 360      | 350       |
| Location ID: | CO24-PZM007 |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 3.2         | 2.1      | 1.3       | 2.2      | 2.9      | 2.3      | 2.3       | 3.7      | 4.4      | 0.5      | 5.2       | 4.3      | 2.9      | 3.9      | 7.7       | 3.5      | 1,700    | 3.2      | 3.8       |
| Ethylbenzene | 4.6         | 2.8      | 3.2       | 2.8      | 1.9      | 3.6      | 2.1       | 2.9      | 3.1      | 0.5      | 0.5       | 3.3      | 2.7      | 4.2      | 7         | 2.5      | 14       | 3.2      | 2.9       |
| Naphthalene  | 2,620       | 1,110    | 9,230     | 3,780    | 1,320    | 6,510    | 2,390     | 1,530    | 2,770    | 1,800    | 2,700     | 1,900    | 2,000    | 2,000    | 2,000     | 1,600    | 1,200    | 1,400    | 1,800     |
| Toluene      | 1.9         | 1.3      | 1         | 1.4      | 1.9      | 1.4      | 1.4       | 1.9      | 2        | 0.5      | 0.5       | 0.5      | 2.2      | 0.5      | 5.6       | 2        | 940      | 0.5      | 2         |
| Xylenes      | 6.7         | 4.1      | 3.3       | 4.3      | 3.5      | 4.3      | 3         | 4.5      | 4.4      | 0.5      | 0.5       | 0.5      | 0.5      | 0.5      | 14        | 0.5      | 250      | 3.4      | 0.5       |
| Location ID: | CO25-PZM008 |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | NS          | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | 1,400    | NS       | 1000      | 950      | 830      | 1,100    | 980       |
| Ethylbenzene | NS          | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | 32       | NS       | 25        | 28       | 24       | 36       | 32        |
| Naphthalene  | NS          | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | 15,000   | NS       | 14,000    | 17,000   | 14,000   | 13,000   | 15,000    |
| Toluene      | NS          | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | 1,100    | NS       | 940       | 870      | 730      | 1000     | 940       |
| Xylenes      | NS          | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        | NS       | 830      | NS       | 640       | 680      | 640      | 920      | 810       |
| Location ID: | CO26-PZM007 |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 163         | 331      | 3.5       | 94.3     | 43.6     | 165      | 327       | 331      | NS       | 120      | 210       | 260      | 4.7      | 120      | 240       | 39       | 210      | 160      | 210       |
| Ethylbenzene | 6.1         | 10.9     | 0.5       | 3.5      | 1.9      | 6        | 10.7      | 10.6     | NS       | 4.1      | 6.1       | 9.5      | 0.18     | 1.8      | 4.4       | 1.6      | 7.9      | 3.7      | 5.7       |
| Naphthalene  | 2,030       | 2,170    | 33.8      | 966      | 409      | 1,840    | 2,880     | 3,380    | NS       | 960      | 1,400     | 2,500    | 30       | 400      | 660       | 400      | 2,600    | 800      | 1,200     |
| Toluene      | 82.8        | 182      | 1.4       | 43.9     | 16.8     | 87       | 179       | 175      | NS       | 62       | 93        | 120      | 2.3      | 41       | 100       | 23       | 130      | 79       | 110       |
| Xylenes      | 141         | 244      | 1.8       | 74.7     | 42.4     | 153      | 250       | 258      | NS       | 94       | 140       | 210      | 3        | 38       | 93        | 36       | 190      | 79       | 120       |
| Location ID: | CO55-PZM000 |          |           |          | ug/L     |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 1.2         | 0.5      | 0.5       | 0.5      | 0.5      | 0.63     | 1.6       | 74       | 0.5      | 0.39     | 0.17      | 170      | 2.4      | 2.8      | 48        | 0.5      | 6.6      | 1.4      | 65        |
| Ethylbenzene | 0.5         | 0.5      | 0.5       | 0.5      | 0.5      | 0.5      | 0.5       | 2.9      | 0.5      | 0.5      | 0.5       | 5.8      | 0.3      | 0.17     | 1.1       | 0.5      | 0.3      | 0.5      | 1.6       |
| Naphthalene  | 3.4         | 0.5      | 0.5       | 0.5      | 11.8     | 2.8      | 5.4       | 245      | 0.5      | 3.8      | 0.49      | 650      | 7.7      | 12       | 130       | 0.5      | 24       | 1.2      | 130       |

U: Non-Detect,      NS: Not Sampled

| Parameter    | 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 | 2/1/2023 | 6/1/2023 | 8/1/2023 | 11/1/2023 | 3/1/2024 | 6/1/2024 | 8/1/2024 | 11/1/2024 |
|--------------|-----------------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|----------|----------|----------|-----------|
| Toluene      | 0.41            | 0.5      | 0.5       | 0.5      | 0.5      | 0.47     | 1.2       | 38       | 0.5      | 0.27     | 0.5       | 76       | 1.2      | 1.6      | 16        | 0.5      | 2        | 0.58     | 26        |
| Xylenes      | 0.5             | 0.5      | 0.5       | 0.5      | 0.5      | 0.5      | 1.5       | 49.5     | 0.5      | 0.34     | 0.5       | 96       | 2.9      | 1.9      | 16        | 0.5      | 2.9      | 0.42     | 21        |
| Location ID: | CO56-PZP001ug/L |          |           |          |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 352             | 224      | 255       | 237      | 208      | 244      | 300       | 245      | 291      | 200      | 360       | 310      | 210      | 160      | 230       | 100      | 94       | 94       | 120       |
| Ethylbenzene | 11.7            | 10.1     | 10.7      | 9.4      | 8.5      | 7.5      | 10.4      | 9.2      | 10.3     | 7.2      | 11        | 8.9      | 8.4      | 8        | 7.5       | 6.8      | 5.4      | 4.8      | 5.4       |
| Naphthalene  | 3,250           | 1,470    | NS        | 2,660    | 1,970    | NS       | NS        | 2,310    | 1,810    | 2,000    | 3,000     | 2,600    | 2,100    | 1,900    | 1,900     | 1,700    | 1,200    | 1,200    | 1,600     |
| Toluene      | 157             | 21.3     | 95.5      | 129      | 108      | 73.1     | 91.6      | 87.9     | 173      | 53       | 75        | 72       | 70       | 73       | 76        | 22       | 9.2      | 28       | 21        |
| Xylenes      | 251             | 195      | 235       | 217      | 176      | 150      | 244       | 183      | 216      | 160      | 260       | 220      | 190      | 170      | 170       | 150      | 110      | 110      | 110       |
| Location ID: | CO57-PZP002ug/L |          |           |          |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 0.5             | NS       | NS        | NS       | NS       | 0.5      | 0.5       | 0.5      | 0.5      | 0.5      | 0.5       | 0.5      | 0.5      | 0.16     | 0.32      | 0.5      | 270      | 0.26     | 1.8       |
| Ethylbenzene | 0.5             | NS       | NS        | NS       | NS       | 0.5      | 0.5       | 0.5      | 0.5      | 0.5      | 0.5       | 0.5      | 0.5      | 0.5      | 0.5       | 0.5      | 6.3      | 0.5      | 0.5       |
| Naphthalene  | 1.8             | NS       | NS        | NS       | NS       | 0.5      | 0.5       | 0.5      | 0.3      | 0.5      | 0.5       | 0.5      | 0.5      | 0.5      | 0.5       | 0.5      | 220      | 0.62     | 0.64      |
| Toluene      | 0.5             | NS       | NS        | NS       | NS       | 0.5      | 0.5       | 0.5      | 0.25     | 0.5      | 0.5       | 0.5      | 0.32     | 0.5      | 0.25      | 0.34     | 310      | 0.44     | 1.5       |
| Xylenes      | 0.5             | NS       | NS        | NS       | NS       | 0.5      | 0.5       | 0.5      | 0.5      | 0.5      | 0.5       | 0.5      | 0.5      | 0.5      | 0.5       | 0.5      | 130      | 0.5      | 0.42      |
| Location ID: | CO58-PZM001ug/L |          |           |          |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 224             | 237      | 243       | 81.2     | 122      | 57.5     | 177       | 128      | 0.5      | 72       | 190       | 82       | 39       | 110      | 70        | 36       | 33       | 29       | 150       |
| Ethylbenzene | 10.3            | 10.6     | 11.4      | 5.2      | 6.3      | 3.2      | 9.1       | 5.4      | 0.5      | 3.4      | 8         | 4.2      | 1.6      | 5.4      | 2.8       | 3        | 1.5      | 1.2      | 8         |
| Naphthalene  | 1,940           | 1,950    | 8,170     | 905      | 1,350    | 662      | 698       | 1,200    | 0.5      | 770      | 1,600     | 590      | 220      | 850      | 380       | 220      | 230      | 170      | 1,700     |
| Toluene      | 89.6            | 63.3     | 68.5      | 20.2     | 27.8     | 10.4     | 55.4      | 43.2     | 0.5      | 26       | 69        | 21       | 10       | 36       | 21        | 4.1      | 2.6      | 3.4      | 59        |
| Xylenes      | 174             | 166      | 197       | 74.8     | 101      | 41.6     | 142       | 91.1     | 0.5      | 64       | 140       | 65       | 25       | 84       | 44        | 27       | 21       | 23       | 140       |
| Location ID: | CO59-PZP002ug/L |          |           |          |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 17              | 0.5      | NS        | NS       | 0.5      | 2.2      | 231       | 0.5      | 0.5      | 13       | 13        | 150      | 0.27     | 2.5      | 5.9       | 0.5      | 300      | 0.19     | 14        |
| Ethylbenzene | 0.9             | 0.5      | NS        | NS       | 0.5      | 0.48     | 11        | 0.5      | 0.41     | 0.54     | 0.62      | 7.4      | 0.26     | 1.3      | 0.46      | 0.5      | 5.1      | 0.5      | 1         |
| Naphthalene  | 31.4            | 68.6     | NS        | NS       | 0.5      | 2.8      | 852       | 1.2      | 0.5      | 53       | 58        | 680      | 1        | 5.7      | 24        | 0.5      | 130      | 0.9      | 77        |
| Toluene      | 6.3             | 0.5      | NS        | NS       | 0.5      | 2.2      | 80.1      | 0.5      | 0.48     | 4.4      | 3.4       | 52       | 0.35     | 2.8      | 1.2       | 0.5      | 280      | 0.5      | 2.8       |
| Xylenes      | 11.9            | 0.5      | NS        | NS       | 0.5      | 4.1      | 173       | 0.5      | 2.8      | 9.1      | 9.6       | 130      | 1.1      | 7.4      | 5.4       | 0.5      | 110      | 0.5      | 15        |
| Location ID: | CO60-PZP001ug/L |          |           |          |          |          |           |          |          |          |           |          |          |          |           |          |          |          |           |
| Benzene      | 249             | 244      | 264       | 318      | 241      | 201      | 259       | 168      | 57.2     | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        |
| Ethylbenzene | 7               | 10.1     | 8.7       | 11       | 8.8      | 6.5      | 8         | 6.2      | 2.2      | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        |
| Naphthalene  | 1,700           | 1,140    | 9,620     | 3,990    | 2,320    | 1,650    | 2,670     | 1,290    | 360      | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        |
| Toluene      | 35.1            | 23.7     | 60.7      | 113      | 60.5     | 19.2     | 37.8      | 30.9     | 10.1     | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        |
| Xylenes      | 162             | 211      | 225       | 269      | 225      | 164      | 184       | 133      | 40.1     | NS       | NS        | NS       | NS       | NS       | NS        | NS       | NS       | NS       | NS        |