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Subject: Lennox - Former Ducane Site; Updated Assessment Report

***** Caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. *****
 Hi Kim,

Attached is a link to the Updated Assessment Report for the former Ducane Company Site (Lennox) in Blackville, SC.

 [Lennox Updated Assessment Report](#)

This link will take you to a folder which contains a pdf of the document, exclusive of Appendix G. Appendix G (Groundwater Plume Analytics Presentation) is provided in the folder as a separate PowerPoint presentation. As a reminder, to animate the presentation you should be in "Slide Show".

Please let me know if you have any issues accessing the folder or downloading either the pdf or the PowerPoint file. Also, please let me know if you would like a paper copy of the report.

Thanks,
 Mary Ann



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September 28, 2022

Ms. Kimberly Kuhn
South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management
2600 Bull Street
Columbia, South Carolina 29201

Subject: **Updated Assessment Report**
Former Ducane Company Site
Blackville, Barnwell County, South Carolina
BLWM File # 401356
WSP Project No. EC02.20160378.21

Dear Ms. Kuhn:

On behalf of our client Lennox International Inc. (Lennox), WSP USA Inc. (WSP, formerly EarthCon Consultants, Inc.) is submitting the enclosed Updated Assessment Report for the former Ducane Company Site located in Blackville, Barnwell County, South Carolina (BLWM File # 401356). This report is being submitted in accordance with the requirements of Voluntary Cleanup Contract 16-5848-RP executed on November 17, 2016. Due to the visual nature of Plume Analytics®, we would like to arrange a meeting with you to present the results of the Plume Analytics® study prior to your final review of the enclosed report.

Please free to call us at (770) 973-2100 if you have any questions or if we can provide any additional information.

Respectfully submitted,
WSP USA INC.

Carol D. Northern
Project Principal

Timothy O. Goist, P.G. (SC#1121) HZ
Client Manager

cc: Ms. Betty Ungerman, Environmental Affairs Director, Lennox International, Inc.
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UPDATED ASSESSMENT REPORT

**FORMER DUCANE COMPANY SITE
118 WEST MAIN STREET
BLACKVILLE, BARNWELL COUNTY, SOUTH CAROLINA
BLWM FILE #401356**

PREPARED FOR:

**LENNOX INTERNATIONAL, INC.
2140 Lake Park Boulevard
Richardson, Texas 75080**

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WSP Project No. EC02.20160378.21

September 2022



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1.0 INTRODUCTION

The former Ducane Company Site (the Site) is located at 118 West Main Street in Blackville, South Carolina (Figure 1). The Site consists of approximately 105 acres with about 19 acres developed with a production building and a research and development building. The Site is identified by Barnwell County as consisting of three parcels. One parcel is owned by the Barnwell County Economic Development Corporation. The other two parcels, which include the Site buildings, were owned by NK Newlook, Inc. and were formerly used for production of wooden commercial display cabinets. These parcels are currently owned by the Barnwell County Economic Development Corporation and are used for the production of wooden storage buildings and warehouse storage.

Assessment and remediation activities have been ongoing at the Site since 1999. Constituents detected in Site soils and groundwater included chlorinated volatile organic compounds (CVOCs) and aromatic hydrocarbons. Approximately nine in-situ chemical oxidation/bio-remediation injection events were performed at the Site from July 2003 to April 2008.

On November 17, 2016, Lennox International (Lennox) entered into Voluntary Cleanup Contract 16-5848-RP (the Contract) with the South Carolina Department of Health and Environmental Control (DHEC). In accordance with the Contract requirements, comprehensive groundwater sampling of Site wells was conducted from January 30 to February 2, 2017. The groundwater samples were analyzed for volatile organic compounds (VOCs) to update the status of the known plume. Groundwater samples collected from monitoring wells MW-1, MW-3, and background well MW-6R were also analyzed for Target Analyte List (TAL) metals. The results of the comprehensive groundwater sampling event were presented in an Assessment Report dated March 24, 2017. Based on the sampling event results and the subsequent Plume Analytics® study, the Assessment Report proposed conducting semi-annual groundwater sampling for a period of two years (four total sampling events). The Assessment Report also recommended minor repairs to monitoring wells and the installation of one additional monitoring well (MW-16) north of MW-3 to address a data gap identified during the Plume Analytics® study. DHEC approved the Assessment report in letters dated May 8 and June 1, 2017.

The four semi-annual groundwater sampling events were conducted at the Site in October 2017, March 2018, October 2018 and March 2019. Groundwater sampling was conducted as described in the March 2017 *Assessment Report* and the *Work Plan for Monitoring Well Installation* dated

June 29, 2017 and approved by DHEC on July 17, 2017. The results for the first three semi-annual groundwater sampling events were provided to DHEC in Semi-Annual Monitoring Reports dated January 30, 2018, July 23, 2018, and January 24, 2019. The results of the fourth semi-annual groundwater sampling event conducted in March 2019 along with the updated Plume Analytics® study were provided to DHEC in the *Updated Assessment Report* dated July 26, 2019.

A meeting was held on August 28, 2019 to discuss future Site activities. As a result of that meeting, Lennox agreed to install one additional monitoring well (MW-17), redevelop monitoring well MW-4D, conduct one additional year of semi-annual groundwater sampling and update the Plume Analytics® study with the additional groundwater analytical results. The *Updated Assessment Report* and the additional Site activities were approved by DHEC in a letter dated August 29, 2019.

Additional groundwater sampling events were conducted in October 2019 and April 2020. Groundwater sampling was conducted as described in the March 2017 *Assessment Report* and the *Work Plan for Monitoring Well Installation* dated June 29, 2017 and approved by DHEC on July 17, 2017. Additional field activities were conducted and updates to the reports were provided in July 2019 and September 2020. Additional assessment activities were conducted in June 2021 to delineate contaminants in groundwater near monitoring well MW-3 and assess potential sources of contamination. The results of the additional activities conducted in 2021 were presented to DHEC during a December 15, 2021, meeting. Additional assessment activities were recommended including installing one monitoring well (MW-18), advancing one soil boring (DP-15) inside the building, and collecting another round of groundwater samples.

This *Updated Assessment Report* for the Former Ducane Company Site (BLWM File #401356) is being submitted to satisfy the requirements of Voluntary Cleanup Contract 16-5848-RP executed on November 17, 2016. This report presents the results of the 2022 additional assessment activities and provides an updated Plume Analytics® study.

2.0 FIELD ACTIVITIES

One soil boring (DP-15) was advanced inside the building on April 19, 2022, to provide additional delineation of groundwater at the facility (Figure 2). Groundwater samples were collected from this boring at depths of 15 and 22 feet below ground surface (bgs). In addition, monitoring well MW-18 was installed on April 19, 2022, northeast of the building near previous soil boring DP-12. The well was installed by Cascade Drilling, a SC-certified drilling company, under DHEC well

permit MW-13200. Appendix A provides a summary of the field procedures for the additional groundwater delineation and well installation. Appendix B provides the soil boring logs and well construction diagram.

A comprehensive groundwater sampling event was conducted at the Site from April 19 to April 21, 2022. There are 22 groundwater monitoring wells located at the Site. Prior to sampling, depth to groundwater measurements were collected at all accessible wells. The locations of the monitoring wells are shown on Figure 2.

Static water levels were measured on April 18, 2022 from 16 Site groundwater monitoring wells. Monitoring wells MW-6R and MW-8 were not measured due to flooding of the well vaults and presence of debris and mud in the casing. Permission to access well MW-9, which is located on the adjacent private property, was not granted. Monitoring wells MW-12 and MW-13 could not be located and monitoring well MW-18 was not installed at the time of the water level measurements. The monitoring well construction details are presented in Table 1 and the water level measurements are presented in Table 2.

Groundwater samples were collected from 17 of the 22 wells using low flow purge and sampling techniques. Wells MW-6R, MW-8, MW-9, MW-12 and MW-13 could not be sampled for the reasons stated above. Prior to sampling, each well was purged, and the following field parameters were measured: temperature, conductivity, dissolved oxygen (DO), oxidation reduction potential (ORP), ferrous iron and turbidity. A description of the field procedures is provided in Appendix A. Field parameters measured during the sampling event are summarized in Table 3 and the field sampling forms are provided in Appendix C.

3.0 GROUNDWATER FLOW

The water level measurements collected on April 18, 2022 (Table 2) were used to develop a potentiometric surface map for the Site, which is included as Figure 3. As shown on Figure 3, groundwater elevation data indicate groundwater flow is to the north-northwest which is consistent with groundwater flow measured in previous sampling events. A summary of historical groundwater elevations is provided in Appendix D.

4.0 GROUNDWATER ANALYTICAL RESULTS

Groundwater samples were analyzed for VOCs using EPA Method 8260D and 1,4-dioxane using EPA Method 8260D Selective Ion Monitoring (SIM). The groundwater samples were also analyzed for the monitored natural attenuation (MNA) parameters nitrate, sulfate, sulfide, chloride, alkalinity, total organic carbon (TOC) and dissolved gases (ethane, ethene, methane and propane). A summary of the VOC analytical results is provided in Table 4 and the MNA parameter results are summarized in Table 5. The laboratory analytical reports from Pace are provided in Appendix E. The laboratory data was validated in accordance with the *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA, 2008) and *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA, 2010). A copy of the validation summary is provided in Appendix E. A summary of historical groundwater analytical results is provided in Appendix F.

The April 2022 groundwater analytical results indicate the presence of acetone, chloroform, aromatic hydrocarbons, CVOCs, methylene chloride and 1,4-dioxane as discussed below. Additionally, the April 2022 groundwater data was the subject of another Groundwater Plume Analytics® analysis, as discussed in Section 6.0 of this report.

4.1 Aromatic Hydrocarbons

Aromatic hydrocarbons (benzene, ethylbenzene, toluene, isopropyl benzene, and/or xylenes) were detected east of the building proximal to monitoring well MW-3, northeast of the building at monitoring well MW-18, and south of the building at monitoring wells MW-1 and MW-7 as shown on Figure 4. The highest concentrations were observed in monitoring well MW-3, which is the location of a release of Naphtha-100 in 1999 (ERM,1999). The presence of aromatic hydrocarbons was also detected at MW-18, where concentrations were approximately two orders of magnitude lower than what was detected at MW-3. Results of the groundwater samples from boring DP-15 and well MW-5 indicate that aromatic hydrocarbons are not present in groundwater under the building. Current concentrations of aromatic hydrocarbons are below EPA Maximum Contaminant Levels (MCLs) or Regional Screening Levels for Tapwater (RSLs) as indicated on Table 4.

4.2 Chlorinated VOCs

CVOCs were detected at the highest concentrations east of the building proximal to monitoring well MW-3 and south of the building proximal to monitoring well MW-7, with lower concentrations observed beneath the building at MW-5 and DP-15 as shown on Figure 5. The CVOCs detected include chlorinated solvents commonly used in industry such as tetrachloroethene, trichloroethene, 1,1,1-trichloroethane and 1,1,2-tetrachloroethane. Daughter products of these solvents were also observed including cis-1,2-dichloroethene, trans-1,2-dichloroethene, 1,1-dichloroethene, 1,2-dichloroethane, 1,1-dichloroethane, and vinyl chloride. These daughter products can be formed by both natural attenuation processes and bioremediation.

East of the Production Building

The CVOCs detected in the groundwater sample from monitoring well MW-3 are primarily daughter products such as cis-1,2-dichloroethene, trans-1,2-dichloroethene, 1,1-dichloroethane, 1,1-dichloroethene, and vinyl chloride. However, the reporting limits of the possible parent CVOCs (trichloroethene and tetrachloroethene) were elevated [200 micrograms per liter ($\mu\text{g/L}$)] due to dilutions required for other compounds. The presence of daughter products is likely due to previous remediation in the area and natural attenuation processes. Concentrations of each of the CVOCs detected in monitoring well MW-3 exceeded the applicable EPA MCL or RSL.

Monitoring well MW-3 is screened from 5 to 15 feet bgs in a sandy clay underlain by a five-foot clay layer. Monitoring well MW-3D is screened in a saturated sand/sandy silt layer beneath the 5-foot clay layer. VOCs were not detected in deeper well MW-3D indicating that the presence of CVOCs is limited to groundwater above the clay at this location.

North of the Production Building

Monitoring well MW-18 is located downgradient of monitoring well MW-3 and the Old Maintenance Area. Monitoring well MW-18 was installed to confirm previous detections of CVOCs in boring DP-12 and to provide a location to monitor CVOC concentrations in the area north of the production building. Parent compounds (trichloroethene, tetrachloroethene, and 1,1,2-trichloroethane) and the daughter product 1,1-dichloroethene were detected in monitoring well MW-18 at concentrations similar to those previously detected in boring DP-12.

The total CVOC concentration detected in MW-18 ($981.4 \mu\text{g/L}$) is much lower than that observed in monitoring well MW-3 ($18,790 \mu\text{g/L}$). Although monitoring well MW-18 is downgradient of MW-

3, another source (possibly the Old Maintenance Area) is suspected because 1) primarily daughter products are observed in MW-3 and primarily parent products are observed in MW-18 and 2) results of the 2021 investigation suggest localized impacts in both areas (EarthCon, 2021). The presence of parent compounds in monitoring well MW-18 may also be attributed to the fact that remediation has not been performed in this part of the Site.

Monitoring wells MW-4 and MW-4D are located downgradient of monitoring well MW-18. Concentrations of CVOCs in monitoring well MW-4 are less than applicable RSLs and much lower than the concentrations in monitoring well MW-18. CVOCs are also detected in monitoring well MW-4D; however, results of previous investigations suggest that the integrity of this well may be compromised.

A camera survey conducted on April 22, 2020, indicated that there were potential breaches in the well casing of MW-4D at approximately 20 and 30 feet below the top of the casing. In June 2021, EarthCon attempted to lower a passive diffusion sampler (PDS) to a depth of 80 feet bgs.. The PDS could not be lowered to the deeper interval (80 feet) in MW-4D as originally planned due to refusal, which also indicates a problem with well integrity. It is suspected that the CVOCs detected in monitoring well MW-4D may be associated with shallow-impacted groundwater entering MW-4D from the breaches identified at 20 and 30 feet bgs.

South of the Production Building

CVOCs were observed in the groundwater sample from monitoring well MW-7, which is screened from 2 to 12 feet bgs. Both parent (trichloroethene) and daughter products were detected in the groundwater sample from MW-7.

The presence of daughter products extends to monitoring well MW-1 located downgradient of monitoring well MW-7. Well MW-1 is screened from 5 to 20 feet bgs. The impacted area is localized based on historical non-detect CVOC results from monitoring wells MW-6R and either non-detect or low (below the MCL) concentrations in monitoring well MW-8. Monitoring well MW-6R is located approximately 200 feet east of MW-7, and MW-8 is located approximately 200 feet west of MW-7.

Tetrachloroethene, trichloroethene, and cis-1,2-dichloroethene were also detected in the groundwater sample from monitoring well MW-1D screened from 48 to 53 feet. Parent products

(trichloroethene and tetrachloroethene) were observed in the deeper well that were not in the associated shallow well (MW-1).

Beneath the Production Building

CVOCs were detected in groundwater samples collected from monitoring well MW-15 and boring DP-15 as shown on Figure 5. The purpose of groundwater location DP-15 was to assess whether another source may be under the building and confirm concentrations between monitoring wells MW-3 and MW-5. The analytes detected in the groundwater samples from DP-15 are consistent with those detected in groundwater from monitoring well MW-5 and do not indicate an additional source of groundwater contamination. The groundwater samples from monitoring well MW-5 and boring DP-15 contained both parent compounds (trichloroethene and tetrachloroethene) and daughter products (cis-1,2-dichloroethene, trans-1,2-dichloroethene, 1,1-dichloroethene, and vinyl chloride). As shown on Table 4, concentrations of trichloroethene, tetrachloroethene, 1,1-dichloroethene, 1,2-dichloroethane, 1,1-dichloroethane, cis-1,2-dichloroethene, 1,1,2-trichloroethane, and vinyl chloride in the samples from DP-15 were above the applicable MCL and/or EPA RSL. Concentrations of trichloroethene, tetrachloroethene, cis-1,2-dichloroethene, and vinyl chloride in the sample from monitoring well MW-5 also exceeded the MCL.

4.3 Other Constituents

In addition to the aromatic hydrocarbons and CVOCs, 1,4-dioxane was detected in groundwater samples from wells MW-3, MW-5, and MW-7 and boring DP-15 at concentrations that are above the EPA RSL. 1,4-Dioxane was not detected in the samples collected north and downgradient of the production building.

Methylene chloride was also detected in samples MW-1 and DP-15 at concentrations above the EPA MCL. Chloroform was detected in samples MW-3D, MW-16, MW-17, and MW-18 at concentrations below the EPA MCL. Acetone was detected in sample MW-2D at a concentration below the EPA RSL. Methylene chloride, chloroform, and acetone are common laboratory and/or field contaminants. Due to the relatively low concentrations of acetone, it will not be considered further in the assessment. Both acetone and methylene chloride will continue to be monitored.

4.4 IDW Management

Investigation derived waste (IDW) in the form of soil cuttings was generated during advancement of the soil borings. IDW in the form of purge water was generated during groundwater sampling

activities. IDW was containerized in 55-gallon drums, properly labeled, and properly disposed offsite.

5.0 GROUNDWATER PLUME ANALYTICS® METHODOLOGY

A Groundwater Plume Analytics® evaluation, including a Ricker Method® Plume Stability Analysis, was conducted for the Upper Shallow aquifer at the Site using groundwater analytical data provided by Environmental Resources Management (ERM) through 2014, analytical data collected by EarthCon through June 2021, and analytical data collected by WSP for April 2022. The Groundwater Plume Analytics® evaluation was conducted for the following constituents of concern (COC):

Chloroethenes

- Tetrachloroethene (PCE)
- Trichloroethene (TCE)
- cis-1,2-Dichloroethene (cis-1,2-DCE)
- trans-1,2-Dichloroethene (trans-1,2-DCE)
- 1,1-Dichloroethene (1,1-DCE)
- Vinyl Chloride
- Total chloroethenes (molar basis)

Chloroethanes

- 1,1,2-Trichloroethane (1,1,2-TCA)
- 1,1,1-Trichloroethane (1,1,1-TCA)
- 1,2-Dichloroethane (1,2-DCA)
- 1,1-Dichloroethane (1,1-DCA)
- Total chloroethanes (molar basis)

Aromatic Hydrocarbons

- Toluene
- Ethylbenzene
- Xylenes

This Groundwater Plume Analytics® evaluation included the following elements:

- Ricker Method® Plume Stability Analysis
- Total molar trend and molar fraction analysis for chloroethenes and chloroethanes
- Ricker Method® Spatial Change Indicator™
- Geochemical MNA isopleths
- Groundwater elevation trend evaluation

The methodologies of the aforementioned elements of the Groundwater Plume Analytics® services are provided in Appendix G. Results of the Groundwater Plume Analytics® evaluation are presented in Section 6.0.

6.0 GROUNDWATER PLUME ANALYTICS® RESULTS

One of the primary benefits of the Groundwater Plume Analytics® process is the conversion of data into graphical and video outputs that make data more understandable. The following is provided as a textual summary of the visual outputs. The full graphical displays and analyses, including plume map videos, center of mass (COM) evaluation maps, molar trend and molar fraction evaluations, and the Spatial Change Indicator™ results are included in Appendix H.

A Ricker Method® Plume Stability Analysis was conducted for the Site using groundwater data for each of the constituents from 1999 to 2022. Throughout Site history, numerous remedial efforts and groundwater monitoring well installations were performed. September 2008 is a significant date because it marked the end of anthropogenic remedial activities for the Site and is noted on the metrics trend charts.

Statistical trends were performed on the data from February 2017 through April 2022 to provide insight into recent plume behavior. This date range was also selected due to the more consistent nature of the data points verses time.

Monitoring well MW-18 was installed in the Upper Shallow aquifer before the April 2022 event. Because PCE and TCE were the primary constituents detected in MW-18, two trend graphs for PCE and TCE are presented: One trend for the February 2017 through June 2021 period up until the point MW-18 was installed, and from which a new trend will be established; and for comparison purposes, another trend for the February 2017 through April 2022 timeframe with MW-18 excluded from the analysis. Note that trends are not provided for 1,1,2-TCA, and 1,1,1-TCA for the February 2017 through April 2022 timeframe due to the limited number of detected results.

Because the early well network consisted of only a few wells, the analysis was conducted inside a prescribed “window” or analytics boundary to provide a consistent view of plume behavior over time. This plume window is defined by the lateral extents of the current monitoring well network and the plume contours were truncated at the boundary of the window. As mentioned above, the full graphical displays including plume maps, plume-stability-metric charts with trends, Spatial Change Indicators™ and COM figures are available in Appendix H. The following table summarizes the plume stability trends for plume area, average concentration, and mass indicator from February 2017 through April 2022.

Ricker Method® Plume Stability Results (February 2017– April 2022)

<u>Constituent</u>	<u>Area</u>	<u>Average Concentration</u>	<u>Mass Indicator</u>
PCE***	Stable*	Stable	Stable*
TCE***	Stable	Stable	Stable
cis-1,2-DCE	Stable**	Stable	Stable
trans-1,2-DCE	Stable	Stable	Stable
1,1-DCE	Stable	Stable	Stable
Vinyl Chloride	Stable	Stable	Stable
Total Chloroethenes	Stable	Stable	Stable
1,1,2-TCA	NA	NA	NA
1,1,1-TCA	NA	NA	NA
1,2-DCA	Stable	Increasing	Increasing
1,1-DCA	Decreasing	Stable	Stable
Total Chloroethanes	Decreasing	Stable	Stable
Toluene	Stable	Stable	Stable
Ethylbenzene	Stable	Increasing	Increasing
Xylenes	Stable*	Increasing	Increasing

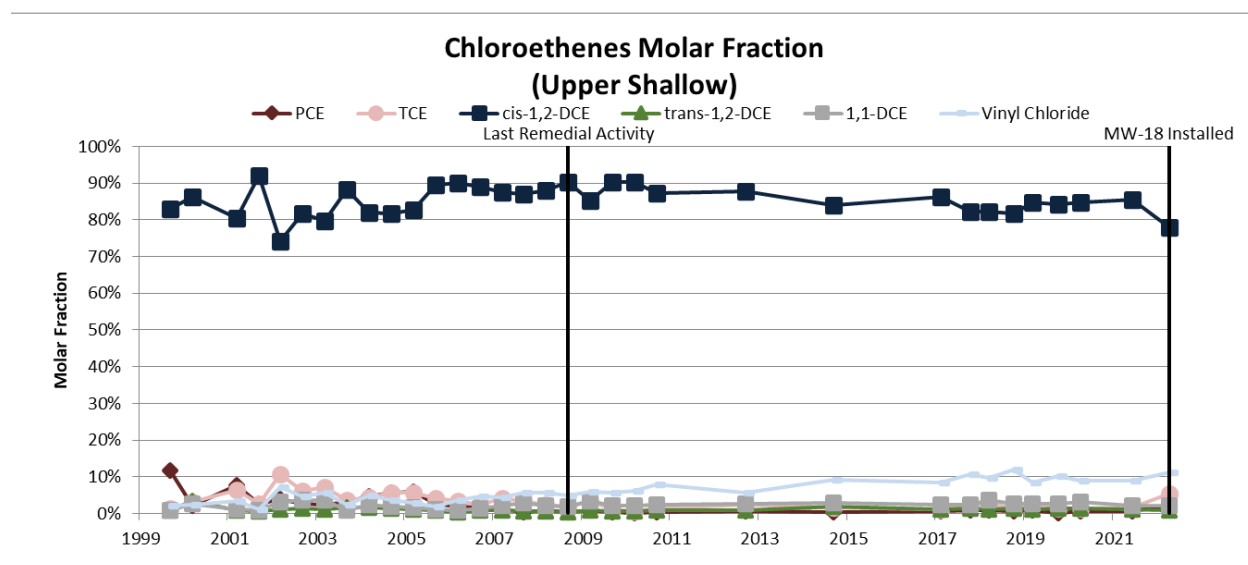
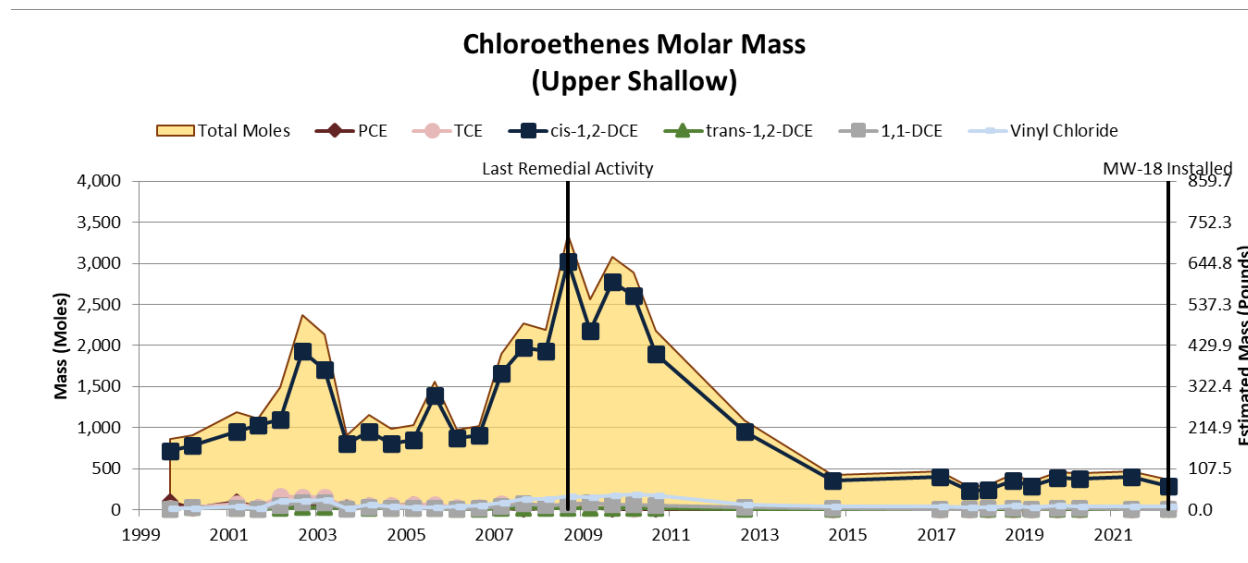
Notes:

- *Indicates Mann-Kendall trend is increasing
- **Indicates Mann-Kendall trend is decreasing
- ***MW-18 excluded from trends

The results summarized above indicate that the 1,2-DCA, ethylbenzene, and xylenes plumes are increasing since February 2017. The other constituent plumes are stable (i.e., no trend). Additional observations of each of these plumes are discussed further below.

6.1 Chloroethenes

The results of this analysis indicate that the total chloroethene plume, on a molar basis, exhibited a strong decreasing trend following the last remedial activity in 2008, as observed in the figure below. From 2017 to April 2022, the total chloroethene plume has demonstrated a stable trend in molar mass with an observable slight decrease in molar mass during the last sampling event as described below. It is noted that the total chloroethene plume (indicated by the solid yellow plot on the graph below) is in units of moles on the primary y-axis. Additionally, the individual constituent molar fractions are shown in the second graph below.



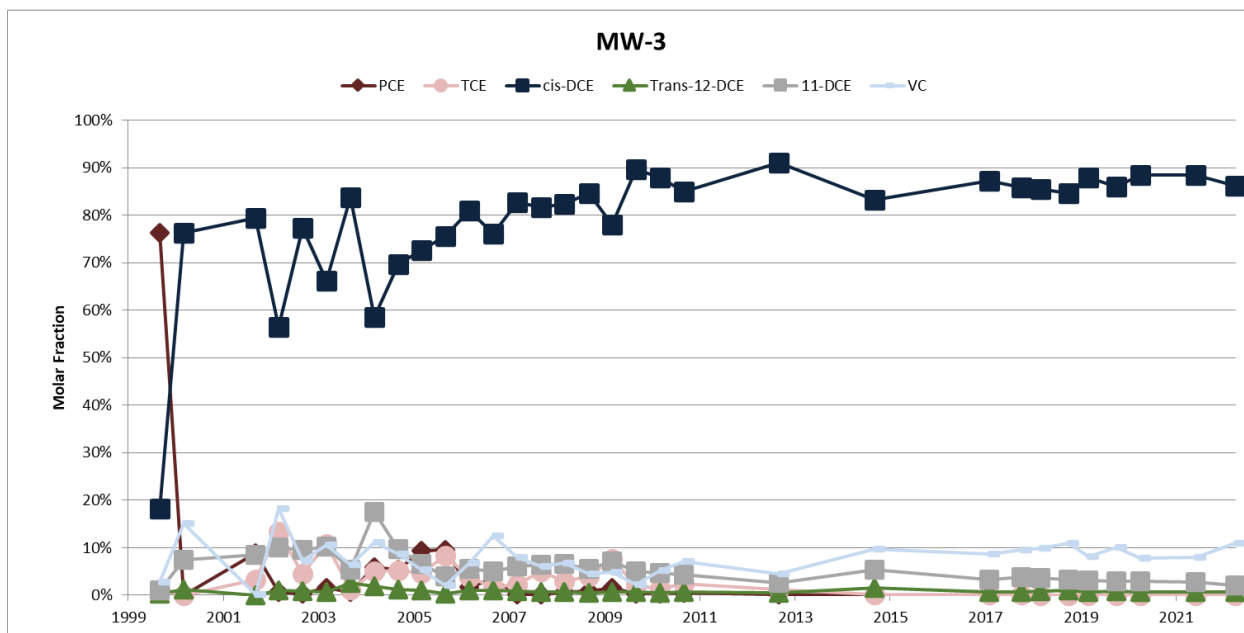
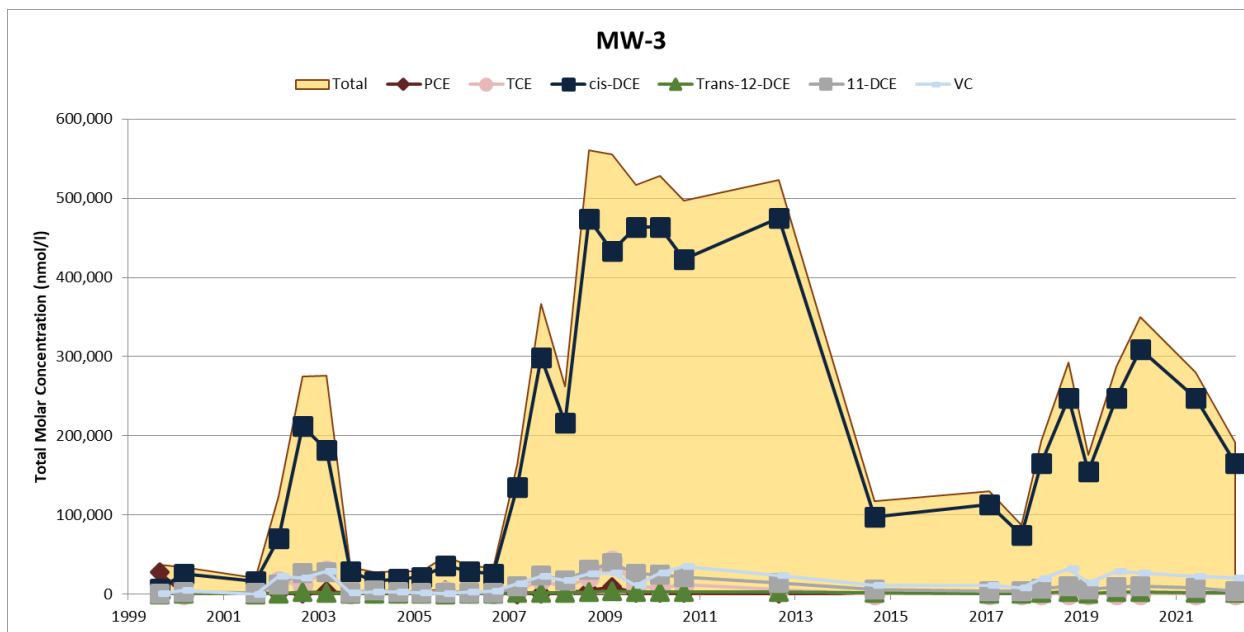
The molar fractions above demonstrate that in addition to the strong decreasing trend in mass since September 2008, the predominate constituent of the chloroethene plume is cis-1,2-DCE. As observed, since the last remedial activity, cis-1,2-DCE has consistently represented roughly 80% to 90% of the total chloroethene plume on a molar basis up until the last sampling event. During the last sampling event cis-1,2-DCE dropped to approximately 77% of the plume. This is the first time the cis-1,2-DCE ratio was less than 80% since approximately 2003. Additionally, we observed an increase in the vinyl chloride ratio during the last sampling event. This is an encouraging sign because it is known that cis-1,2-DCE will convert to vinyl chloride as a process of biological reductive dechlorination. This is perhaps an indicator that the plume may be advancing from stability (where the rate of CVOC attenuation equals the rate of CVOC desorption

from soil) to plume reduction (where the rate of CVOC attenuation exceeds the CVOC desorption rate from soil).

It is readily apparent that reductive dichlorination is a favorable process at the site as the vast majority of DCE produced by the breakdown of PCE to TCE will occur as cis-1,2-DCE. Therefore, the presence of a high percentage of cis-1,2-DCE is a strong indicator that reductive dechlorination has occurred at the Site. The rapid reduction in total moles from 2008 to 2015 is likely the result of various in-situ remediation events that occurred at the Site.

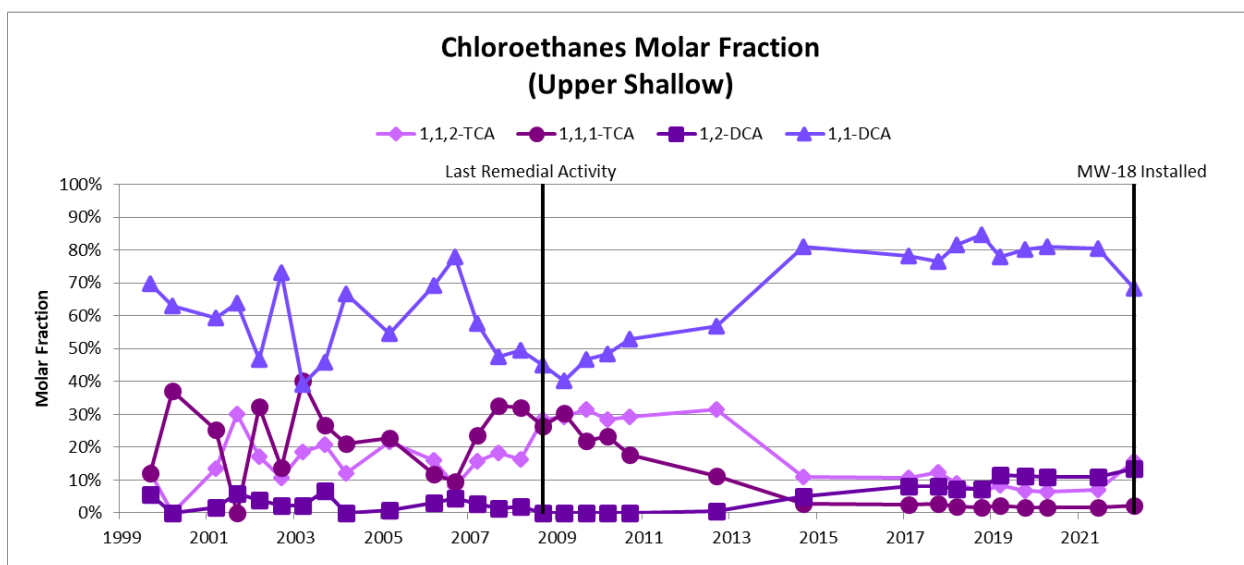
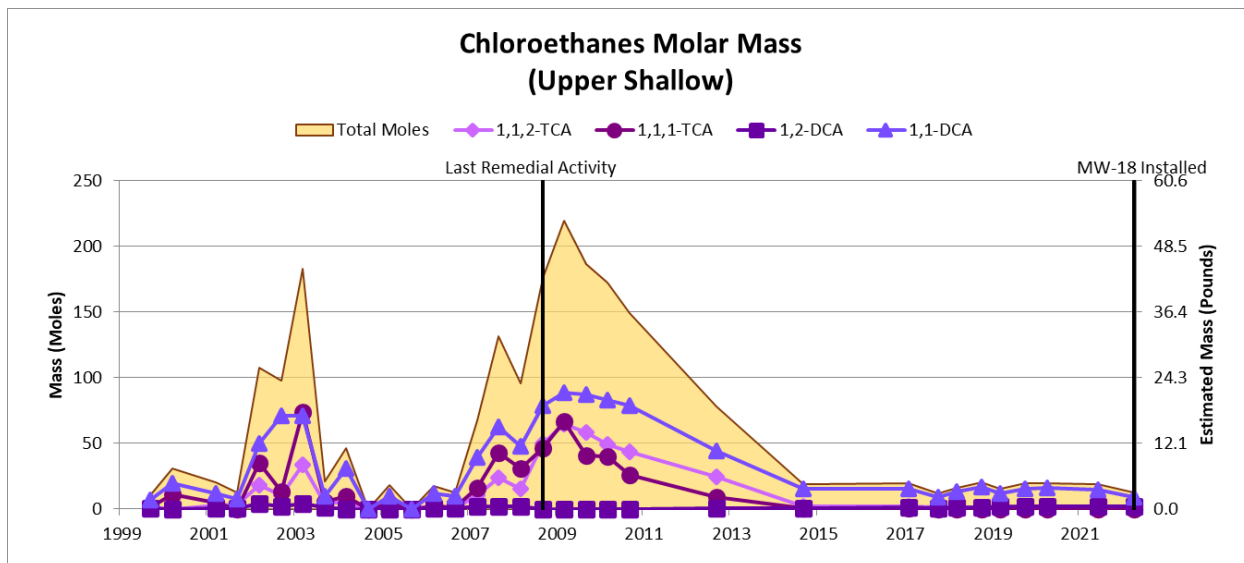
The Ricker Method[®] Spatial Change Indicator[™] analysis comparing total chloroethenes from February 2017 to April 2022 shows areas of blue-shaded concentration decreases across the middle of the Site with red-shaded areas of concentration towards the northern portion of the plume and stronger increases proximal to MW-3 and MW-7. The analysis shows overall plume reductions in area, average concentration, and mass indicator of 2%, 20%, and 22%, respectively. Despite the recent concentration increase near MW-3 and MW-7, the overall plume continues to be stable.

The molar concentrations and molar fractions of the chloroethenes in MW-3, depicted below, demonstrate that there has been an increase of primarily cis-1,2-DCE since 2017. However, the cis-1,2-DCE concentrations have decreased for the last two years. It is important to note that there are no indications of significant increases in the parent compounds PCE and TCE, thus indicating that there is no evidence of a “new release” in the area proximal to MW-3.



6.2 Chloroethanes

The results of this analysis indicate that the total chloroethane plume, on a molar basis, is also decreasing since September 2008, as observed by the decreasing trend in total moles in the figure below.

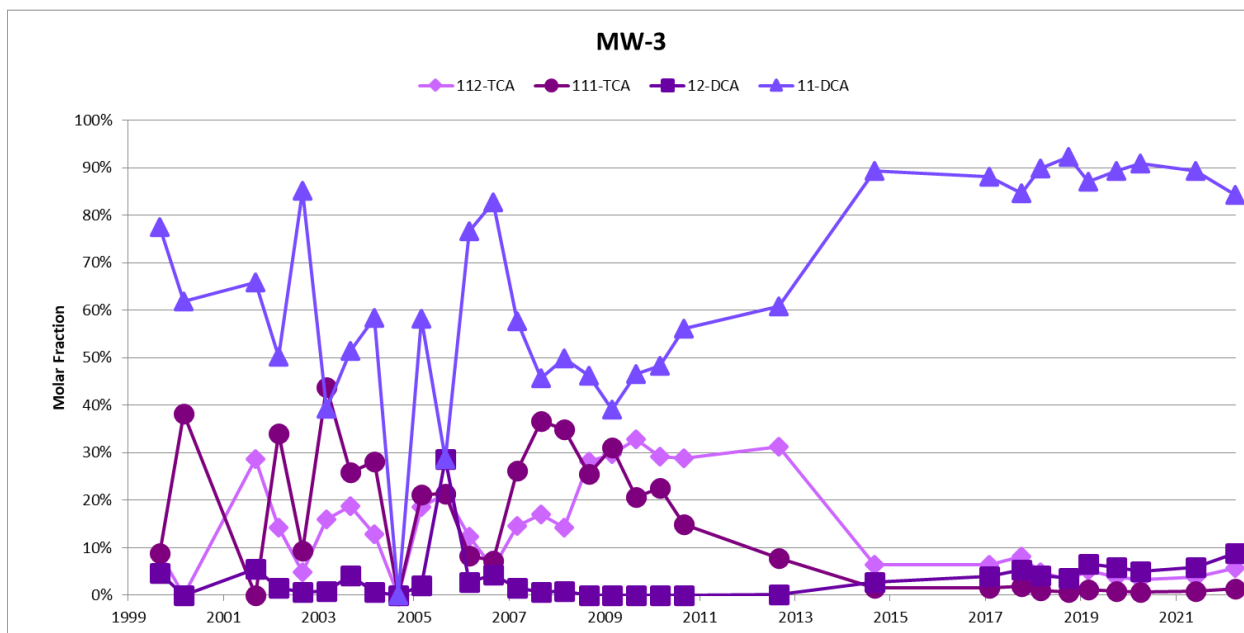
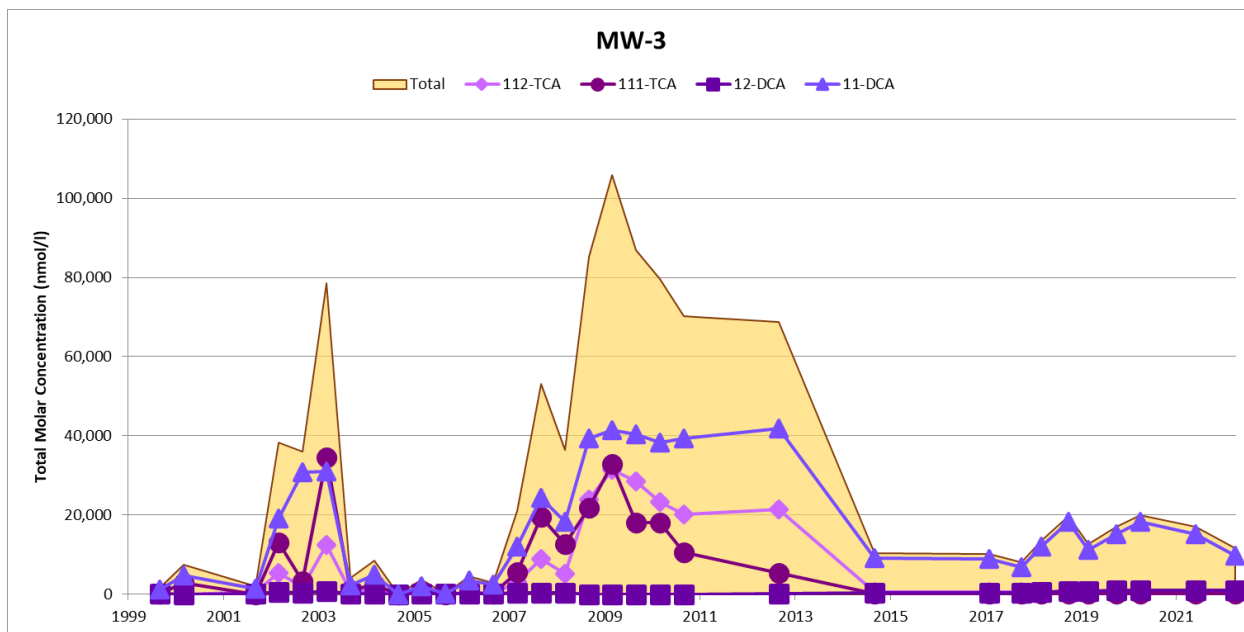


Similar to the chloroethenes, the chloroethanes exhibit patterns consistent with a plume undergoing reductive dechlorination. Since the cessation of anthropogenic remedial activities, the fractions of 1,1,2-TCA and 1,1,1-TCA (parent compounds) are showing a decreasing trend while the daughter products 1,2-DCA and 1,1-DCA are increasing in molar fraction. The combination of decreasing total moles with decreasing parent fraction and increasing daughter fraction is a good indication of biological reductive dechlorination. It should also be noted that similar to the total chloroethene plume, the total chloroethane plume has showed a decrease in total molar concentration during the last sampling event. The fact that the chloroethane plume is mimicking

the chloroethene plume supports the premise that we might be observing the beginning of the transition from plume stability to plume reduction as described above.

The Ricker Method® Spatial Change Indicator™ analysis comparing total chloroethanes from February 2017 to April 2022 depicts areas of blue-shaded concentration decreases throughout most of the plume with a relatively smaller area of red-shaded concentration increase proximal to MW-3. The analysis shows reductions in area, average concentration, and mass indicator of 21%, 17%, and 34%, respectively. Despite the recent slight concentration increase near MW-3, the overall plume continues to be stable.

The molar concentrations and molar fractions of the chloroethanes in MW-3, depicted below, is very similar to the total chloroethane plume because nearly all of the chloroethanes detected at the site are detected in samples obtained from MW-3. Again, based on the total chloroethane analysis, it does not appear that there is new chloroethane parent compound sourcing at the site.



6.3 Aromatic Hydrocarbons

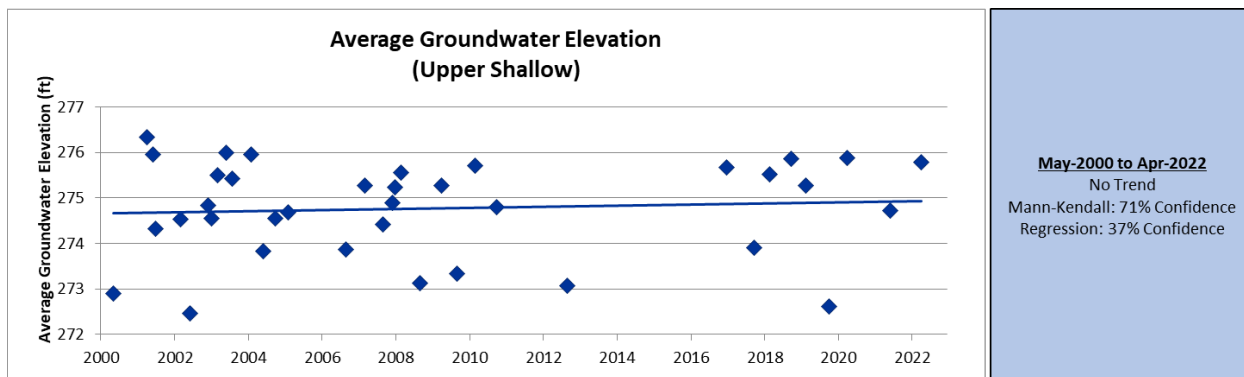
Toluene exhibited stable plume stability trends from February 2017 to April 2022 while the plume stability trends for ethylbenzene and xylenes are slightly increasing. It should be noted that there were no detected concentrations of toluene, ethylbenzene, or xylenes exceeding EPA’s MCLs during the April 2022 event.

6.4 MNA Parameters

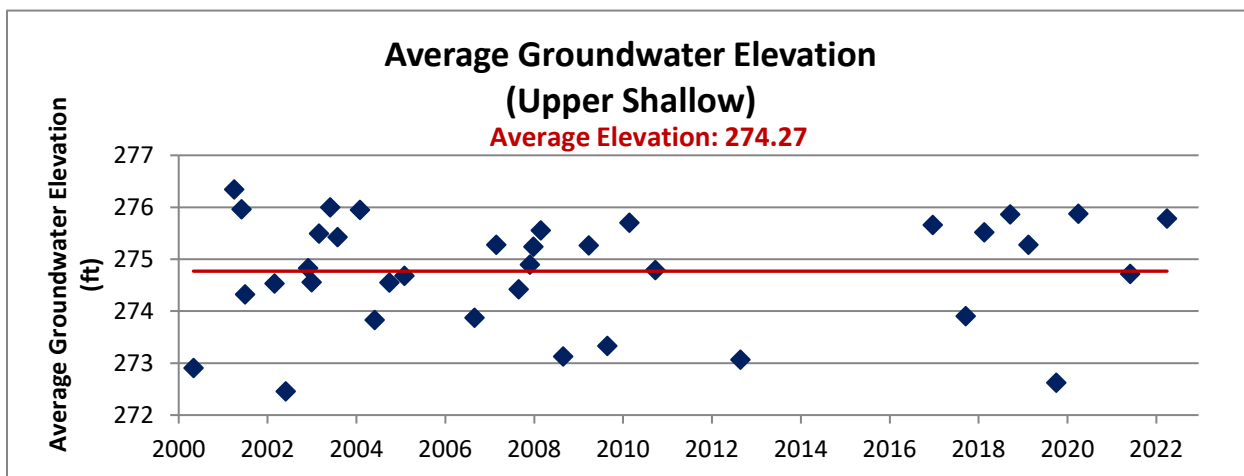
Isopleth maps were produced for each of the MNA parameters analyzed (DO, ORP, ferrous iron, methane, ethane, ethene, and total organic carbon). The MNA isopleths show strong correlation and patterns that provide evidence that biological degradation is occurring. For example, there is evidence of biodegradation through the observation of the metabolic byproducts methane, ethane, and ethene. It is known that reductive dechlorination mechanisms are most favorable under strongly reducing redox conditions (methanogenesis), which is evident at the Site by the presence of dissolved methane in most wells. Furthermore, the ethane and ethene concentrations in MW-3 were 33 µg/L and 110 µg/L, respectively, during the April 2022 event, which is strong evidence that the chloroethanes and chloroethenes are degrading via biological reductive dechlorination. The location of the metabolic byproducts and reducing conditions correspond to the highest concentration portion of the CVOC plumes, indicating that an MNA solution for the plumes could be a viable remedial approach. Additionally, the co-location of the aromatic hydrocarbon plumes with the CVOC plumes may prove beneficial from the standpoint that the aromatic hydrocarbons are providing a carbon-source and thus enhancing the anaerobic degradation of the CVOCs, which the evidence supports. MNA isopleths are included in Appendix H.

6.5 Groundwater Elevation Trend and Correlation

Groundwater elevations were also evaluated to assess a potential relationship between groundwater elevations and variability observed in concentration data. Groundwater data from May 2000 through April 2022 were contoured using kriging, and the average groundwater elevation was determined for each event using Ricker Method[®] techniques. These data were plotted to assess temporal trends in average groundwater elevation for the Site. As shown below, a very slight increasing trend is observed with the inclusion of the new April 2022 sampling data point. Despite the slight upward trend, the data show variability and indicate groundwater elevation at the Site is probably seasonal in nature and not indicative of a sustained rise or fall of the regional groundwater level. It is noted that there is approximately four feet of variability in the average groundwater elevation over the time-period analyzed.



The figure below depicts the Site average groundwater elevation for each event in relation to the historical average groundwater elevation for the Site from May 2000 through April 2022. The Site historical average groundwater elevation is 274.27 ft. The April 2022 average groundwater elevation was 275.29 ft., which is 1.02 ft. higher than the historical average. This increase in Site average groundwater elevation is paired with an observed slight decrease in the most recent sampling event of total chloroethenes, total chloroethanes, and aromatic hydrocarbon concentrations in MW-3. This suggests there does not appear to be a strong correlation between groundwater elevation and constituent concentrations.



6.6 Monitoring Well MW-18

As previously mentioned, MW-18 was installed just prior to the April 2022 sampling event. The data obtained from MW-18 were incorporated into the Groundwater Plume Analytics® analysis. Based upon the sampling results, MW-18 was primarily impacted by PCE and TCE. However, lesser concentrations of chlorinated ethanes and aromatic hydrocarbons were detected. In fact, 1,1-DCE and 1,1,2-TCA were detected above MCLs.

The results from MW-18 verify the soil and groundwater sampling results obtained from DP-12 during a previous investigation. The results indicate that there may have been a surficial release of primarily PCE/TCE solvents or products in the area of DP-12/MW-18. This opinion is made based upon the fact that the chemical composition of the groundwater samples obtained from DP-12/MW-18 do not correlate well with surrounding soil and groundwater sampling points. The other sampling points display more dechlorinated compounds than what is observed from DP-12/MW-18. Going forward, the results from MW-18 will be incorporated into the overall plume stability analysis.

6.7 Direct-push Location DP-15

A direct-push grab groundwater sample was obtained from sampling point DP-15 located inside of the on-site building. The purpose of this sample location was to assess whether there might be another source area under the building and/or to verify the plume maps that were developed based on the Groundwater Plume Analytics® kriging methodology.

Based on the groundwater samples obtained from 15 feet and 22 feet bgs, the analytical results confirmed that the depiction of the plume maps using the Groundwater Plume Analytics® methodology is reasonable. It should be noted that the results for DP-15, because it was a one-time grab sample, are not included in the Plume Analytics® calculations. However, the location of the DP-15 sample point is provided on the Plume Analytics® animation maps. An evaluation of the concentrations of constituents detected at sample DP-15 correlate very well with the depicted plume maps.

6.8 Lower Shallow Aquifer Wells (i.e., “D” wells)

As mentioned previously, a Groundwater Plume Analytics® plume analysis could not be conducted for the four deeper wells. In instances where this occurs due to lack of a “plume” over the well network, a well-by-well depiction of data can be presented. Appendix H presents a well-by-well display of the four lower shallow aquifer wells (MW-1D, MW-2D, MW-3D, and MW-4D).

The data show that wells MW-2D and MW-3D did not have detectable concentrations of CVOCs in the most recent sampling event (except for J-value acetone and chloroform detected in each well, respectively).

MW-1D had detectable concentrations of PCE, TCE, and cis-1,2-DCE with the PCE and TCE concentrations exceeding the MCL. Additionally, the CVOC concentrations in water samples

obtained from MW-1D have continued a steady increase since the recent routine sampling program began in 2017. During this period, the molar fraction of the CVOCs has stayed relatively consistent with PCE approximately 80% and TCE approximately 15-20% of the overall plume.

MW-4D had a detectable level of PCE above the MCL, detectable levels of TCE and 1,1-DCE below the MCL, and an estimated J-value detection of cis-1,2-DCE. As described in Section 4.0, there are integrity concerns regarding the casing for well MW-4D which may potentially be allowing shallow-impacted groundwater to discharge into the well. Therefore, the concern is that CVOC concentrations in MW-4D may be attributed to apparent breach(es) in the well casing.

6.9 Summary

Based on the Groundwater Plume Analytics[®] analysis conducted on the Upper Shallow aquifer wells as described herein, it appears that both the chloroethene and chloroethane plumes are stable and show evidence of attenuation through natural processes, primarily through reductive dechlorination. Based on the results of the April 2022 sampling event, we have observed a decrease in total chloroethenes and total chloroethanes since the last several sampling events. Additionally, in the case of the total chloroethene molar fractions, we observed a noticeable decrease in cis-1,2-DCE and increase in vinyl chloride, which indicates a progression through the reductive dechlorination sequence. Perhaps the site is beginning the transition from stability (i.e., attenuation rate = soil desorption rate) to reduction.

The aromatic hydrocarbon plumes of ethylbenzene and xylene are statistically increasing while the toluene plume appears to be stable. Additionally, the aromatic hydrocarbon plumes are co-located with the areas of highest total chloroethene and total chloroethanes concentrations. This co-location of plumes may prove beneficial as the aromatic hydrocarbons are probably serving as a carbon source for reducing bacteria and contributing to the reductive dechlorination processes.

Based on the recent groundwater elevation and sampling data, there does not appear to be a recent positive correlation between CVOC concentrations and groundwater levels at the Site.

The deep wells MW-1D and MW-4D have indications of recent increases in PCE and TCE. The increasing PCE and TCE concentrations observed in MW-1D should be addressed as recommended below. However, due to well integrity issues observed for MW-4D, the data from

this well should be considered suspect. A recommended path forward to address this well is also presented below.

7.0 RECOMMENDATIONS

Based upon the findings described herein, the current data strongly support that a monitored natural attenuation remedy would be appropriate and worth pursuing as a future Site remedy for the Upper Shallow aquifer, once CVOC concentrations in the area proximal to MW-3 are further reduced. To move in that direction, we recommend the next step is to proceed to the feasibility study stage of this project per the Contract for the Site to address the current plumes and move toward an MNA remedy. The first deliverable will be a Feasibility Study Workplan that will be prepared for and submitted to DHEC for review.

For monitoring well MW-1D in the deep aquifer, we recommend that a downhole camera survey similar to the process that discovered the well integrity issues in MW-4D, be implemented.

Additionally, due to the potential breaches in the MW-4D well casing at 20 and 30 feet, we recommend abandoning this well in place. However, prior to well abandonment, we recommend temporarily converting this well into a deep injection remediation well and supplying the well with a sodium or potassium permanganate product. The intent would be to allow the permanganate material to penetrate the deep aquifer and areas of the breached casing, thus treating areas along preferential groundwater flow pathways. After successful completion of the injection activities, to be determined, the well should then be abandoned. Concurrent to the conversion of MW-4D into a temporary injection well, a replacement monitoring well should be installed downgradient of the MW-4D location to monitor the deep groundwater and effectiveness of the remediation attempt.

Lastly, due to the visual nature of Plume Analytics®, Lennox strongly recommends that a meeting be held to present the results of the Groundwater Plume Analytics® services to DHEC. This meeting should be held prior to final DHEC review of this document.

8.0 REFERENCES

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TABLE 1. GROUNDWATER MONITORING WELL CONSTRUCTION DETAILS

Former Ducane Company Site
 Blackville, Barnwell County, South Carolina
 BLWM File # 401356

Monitoring Well	Installation Date	Well Completion	Ground Surface Elevation feet, NAVD	Top of Casing (TOC) Elevation feet, NAVD	Screened Interval feet, bgs		Screen Length feet	Well Depth feet, bgs	Total Boring Depth feet, bgs
					Top	Bottom			
MW-1	09/01/99	Stick-up	279.09	282.05	5	20	15	20	30
MW-1D	09/01/99	Stick-up	279.08	282.08	48	53	5	53	53
MW-2	09/01/99	Stick-up	274.76	277.71	5	15	10	15	20
MW-2D	09/02/99	Stick-up	274.72	277.61	39	44	5	44	44
MW-3	09/01/99	Stick-up	277.09	279.68	5	15	10	15	15
MW-3D	09/02/99	Stick-up	277.11	279.94	20	25	5	25	25
MW-4	09/01/99	Stick-up	276.89	279.74	8	18	10	18	20
MW-4D	06/25/01	Stick-up	277.05	279.91	72	82	10	82	96
MW-5	05/12/00	Flush	280.23	279.85	15	20	5	20	20
MW-6R	09/24/12	Flush	277.24	277.73	5	15	10	15	15
MW-7	03/26/01	Stick-up	277.65	280.76	2	12	10	12	12
MW-8	03/27/01	Flush	277.11	276.83	2	12	10	12	12
MW-9	03/28/01	Stick-up	278.76	279.66	2	12	10	12	12
MW-10	03/28/01	Stick-up	276.70	278.12	2	12	10	12	12
MW-11	03/28/01	Stick-up	279.56	280.64	2	12	10	12	12
MW-12	03/28/01	Stick-up	NA	NA	2	12	10	12	12
MW-13	10/14/02	Stick-up	NA	NA	3	10	7	10	10
MW-14	10/14/02	Stick-up	278.98	280.81	2	12	10	12	12
MW-15	09/24/12	Stick-up	280.68	282.82	9	19	10	19	20
MW-16	10/18/17	Stick-up	275.31	278.48	10	20	10	20	20
MW-17	10/17/19	Stick-up	282.14	285.28	20	30	10	30	30
MW-18	04/19/22	Stick-up	Pending	Pending	15	25	10	25	25.00

Notes

bgs - below ground surface

NAVD - North American Vertical Datum of 1988

Well construction information obtained from boring logs or the Groundwater and Soil Assessment Report, dated January 2013.

Elevations based on survey by American Engineering Consultants, Inc. dated November 12, 2017; Well MW-17 surveyed on 10/18/19, Well MW-1

NA - not available; wells MW-12 and MW-13 could not be located

Prepared by: TJM 6/29/22

Checked by: MAB 8/03/22

TABLE 2. GROUNDWATER LEVEL MEASUREMENTS

Former Ducane Company Site
Blackville, Barnwell County, South Carolina
BLWM File # 401356

Monitoring Well	Top of Casing (TOC) Elevation feet, NAVD	April 18, 2022	
		Depth to Water feet below TOC	Groundwater Elevation feet
MW-1	282.05	5.60	276.45
MW-1D	282.08	8.27	273.81
MW-2	277.71	2.37	275.34
MW-2D	277.61	4.19	273.42
MW-3	279.68	3.99	275.69
MW-3D	279.94	4.39	275.55
MW-4	279.74	5.22	274.52
MW-4D	279.91	9.29	270.62
MW-5	279.85	5.18	274.67
MW-7	280.76	4.06	276.70
MW-10	278.12	8.27	269.85
MW-11	280.64	5.82	274.82
MW-14	280.81	5.95	274.86
MW-15	282.82	5.97	276.85
MW-16	278.48	3.69	274.79
MW-17	285.28	8.91	276.37

Notes

NAVD - North American Vertical Datum of 1988
TOC - top-of-casing

Prepared by: MAB 6/7/22
Checked by: CDN 6/7/22

TABLE 3. FIELD PARAMETERS
Former Ducane Company Site
Blackville, Barnwell County, South Carolina
BLWM File # 401356

Monitoring Well	Sample Date	Purge Volume Gallons	Temperature °C	pH Standard Units	Dissolved Oxygen mg/L	ORP mV	Conductivity µs/cm	Turbidity NTU	Ferrous Iron mg/L
MW-1	4/19/22	0.60	20.1	4.79	0.19	113.6	80.3	9.60	1.14
MW-1D	4/19/22	0.70	21.0	5.75	6.10	256.6	17.6	4.92	0.11
MW-2	4/19/22	1.0	19.0	4.57	1.44	346.3	44.3	6.88	0.30
MW-2D	4/19/22	0.65	19.2	5.72	6.18	255.8	22.7	1.26	0.13
MW-3	4/20/22	0.85	19.0	4.68	0.20	-162.1	155.6	0.86	3.01
MW-3D	4/20/22	0.70	17.2	4.21	3.86	416.1	73.3	0.48	0.08
MW-4	4/20/22	0.50	17.4	3.99	2.28	335.2	46.9	7.80	0.25
MW-4D	4/20/22	0.50	18.6	4.76	3.17	263.1	19.2	1.80	0.08
MW-5	4/21/22	0.60	18.2	3.30	0.72	3.64	151.7	1.11	1.55
MW-7	4/20/22	0.50	14.3	5.34	0.44	0.5	77.1	9.80	3.30
MW-10	4/20/22	0.50	17.0	4.84	0.30	186.1	58.8	2.67	2.02
MW-11	4/20/22	0.60	15.9	4.95	1.65	123.7	94.7	4.63	0.67
MW-14	4/20/22	0.40	17.5	5.11	0.30	149.1	43.4	8.08	1.78
MW-15	4/19/22	1.0	17.0	5.48	0.18	194.4	70.6	9.90	0.82
MW-16	4/20/22	0.75	16.4	4.06	4.84	248.1	86.7	1.88	0.15
MW-17	4/19/22	0.75	15.9	4.56	2.86	353.1	48.2	9.80	0.42
MW-18	4/20/22	0.50	19.7	5.46	3.17	56.8	116.1	4.40	0.06

Notes

°C - degrees Celsius

mg/L - milligrams per liter

mV - millivolts

µs/cm - microsiemens per centimeter

NTU - nephelometric turbidity units

ORP - oxidation reduction potential

ORP values were not consistent with historical measurements which may indicate a calibration error. Results are suspect.

Prepared by: TJM 5/18/22

Checked by: MAB 6/6/22

TABLE 4. SUMMARY OF DETECTED GROUNDWATER ANALYTICAL RESULTS - ORGANICS

Former Duane Company Site
 Blackville, Barnwell County, South Carolina
 BLWM File # 401356

Constituent (ug/L)			Acetone	Benzene	Chloroform	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	Methylene Chloride	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl Chloride	Xylenes (total)	1,4-Dioxane*	
MCL (ug/L)			--	5	80**	--	5	7	70	100	700	--	5	5	1000	200	5	5	2	10000	--	
RSL (ug/L)			1400	--	0.22	2.8	--	--	--	--	--	45	--	--	--	--	--	--	--	--	--	0.46
Well	Screened Interval/Sample Depth (bgs)	Date Sampled																				
MW-1	5 - 20	4/19/22	<200	<10	<10	<10	<10	<10	1400	5.0 J	100	<10	7.2 J	<10	<10	<10	<10	<10	55	570	<1.0	
MW-1D	48 - 53	4/19/22	<20	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	86	<1.0	<1.0	<1.0	14	<1.0	<1.0	<1.0	
MW-2	5 - 15	4/19/22	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
MW-2D	39 - 44	4/19/22	10 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
MW-3	5 - 15	4/20/22	<4000	<200	<200	960	<200	400	16000	130 J	330	<200	<200	<200	120 J	<200	<200	<200	1300 J	1300	240	
MW-3D	20 - 25	4/20/22	<20	<1.0	0.94 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
MW-4	8 - 18	4/20/22	<20	<1.0	<1.0	<1.0	<1.0	<1.0	5.5	<1.0	<1.0	<1.0	<1.0	2.5	<1.0	<1.0	0.51 J	4.9	<1.0	<1.0	<1.0	
MW-4D	72 - 82	4/20/22	<20	<1.0	<1.0	<1.0	<1.0	1.0	0.74 J	<1.0	<1.0	<1.0	<1.0	32	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	
MW-5	15 - 20	4/21/22	<20	<1.0	<1.0	2.6	0.64 J	1.4	330	2.8	<1.0	<1.0	<1.0	150	<1.0	<1.0	0.61 J	220	6.1	<1.0	9.0	
MW-7	2 - 12	4/20/22	<20	<1.0	<1.0	<1.0	<1.0	1.2	710	5.9	240	2.3	<1.0	<1.0	6.4	<1.0	<1.0	0.66 J	1400	660	1.5 J	
MW-10	2 - 12	4/20/22	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
MW-11	2 - 12	4/20/22	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
MW-14	2 - 12	4/20/22	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
MW-15	9 - 19	4/19/22	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
MW-16	10 - 20	4/20/22	<20	<1.0	1.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
MW-17	20 - 30	4/19/22	<20	<1.0	0.81 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
MW-18	15 - 25	4/20/22	<20	1.1	0.48 J	0.49 J	<1.0	13	9.2	<1.0	<1.0	<1.0	<1.0	390 J	1.4	0.89 J	17	550 J	0.81 J	8.8	<1.0	
DP-15	15	4/19/22	<100	<5.0	<5.0	22	6.4	17	420	12	<5.0	<5.0	5.5	60	<5.0	<5.0	30	97	11	<5.0	51	
DP-15	22	4/19/22	<100	<5.0	<5.0	24	6.7	22	430	13	<5.0	<5.0	7.4	73	<5.0	<5.0	31	120	14	<5.0	52	

Notes

ug/L - micrograms per liter
 < less than the noted limit of quantitation (LOQ)
 J - estimated concentration
 * - 1,4-dioxane reported to the detection limit (DL)
 ** - MCL for total Trihalomethanes
 MCL - US EPA Maximum Contaminant Level
 RSL - US EPA Regional Screening Level for Tap Water
Bold - Constituent detected above LOQ or DL
Bold and Shaded - Constituent detected above the RSL or MCL

Prepared by: MAB 6/3/22
 Checked by: CDN 6/7/22

TABLE 5. GROUNDWATER MNA RESULTS

Former Ducane Company Site
 Blackville, Barnwell County, South Carolina
 BLWM File # 401356

Monitoring Well/Boring ID	Screened Interval/ Sample Depth (bgs)	Sample Date	Alkalinity mg/L	Chloride mg/L	Nitrate-N mg/L	Sulfate mg/L	Sulfide mg/L	TOC mg/L	Ethane ug/L	Ethene ug/L	Methane ug/L	Propane ug/L
MW-1	5 - 20	4/19/22	<20	16	<0.1 J	3.3	<1.0	1.3	<10	13	470	<15
MW-1D	48 - 53	4/19/22	<20	1.8	<0.1 J	0.39 J	<1.0	<1.0	<10	<10	3.6 J	<15
MW-2	5 - 15	4/19/22	<20	6.1	1.2	3.7	<1.0	<1.0	<10	<10	<10	<15
MW-2D	39 - 44	4/19/22	<20	2.9	0.16 J	0.92 J	< 1.0	<1.0	<10	<10	<10	<15
MW-3	5 - 15	4/20/22	<20	39	<0.02	<1.0	2.5	12	33	110	7900	<15
MW-3D	20 - 25	4/20/22	<20	12	3.5	0.41 J	< 1.0	<1.0	<10	<10	<10	<15
MW-4	8 - 18	4/20/22	<20	8.9	0.013 J	2.2	<1.0	1.2	<10	<10	2.9 J	<15
MW-4D	72 - 82	4/20/22	<20	1.8	0.069	1.0	<1.0	<1.0	<10	<10	<10	<15
MW-5	15 - 20	4/21/22	<20	16	0.35	0.68 J	2.9	0.42 J	<10	<10	1200	<15
MW-7	2 - 12	4/20/22	24	18	<0.02	0.52 J	<1.0	6.0	30	150	1600	<15
MW-10	2 - 12	4/20/22	<20	11	<0.02	6.1	<1.0	2.1	<10	<10	62	<15
MW-11	2 - 12	4/20/22	44	3.4	<0.02	5.6	<1.0	2.1	<10	<10	200	<15
MW-14	2 - 12	4/20/22	<20	3.3	<0.02	4.8	<1.0	1.3	<10	<10	96	<15
MW-15	9 - 19	4/19/22	<20	3.3	0.042 J	9.5	<1.0	0.54 J	<10	<10	8.0 J	<15
MW-16	10 - 20	4/20/22	<20	12	5.3	0.41 J	<1.0	<1.0	<10	<10	2.8 J	<15
MW-17	20 - 30	4/19/22	<20	7.4	1.75 J	12	<1.0	<1.0	<10	<10	<10	<15
MW-18	15-25	4/20/22	38	7.5	1.5	2.3	<1.0	0.71 J	<10	8.3 J	44	<15

mg/L - milligrams per liter

ug/L - micrograms per liter

bgs - below ground surface

TOC - total organic carbon

< less than the noted limit of quantitation (LOQ)

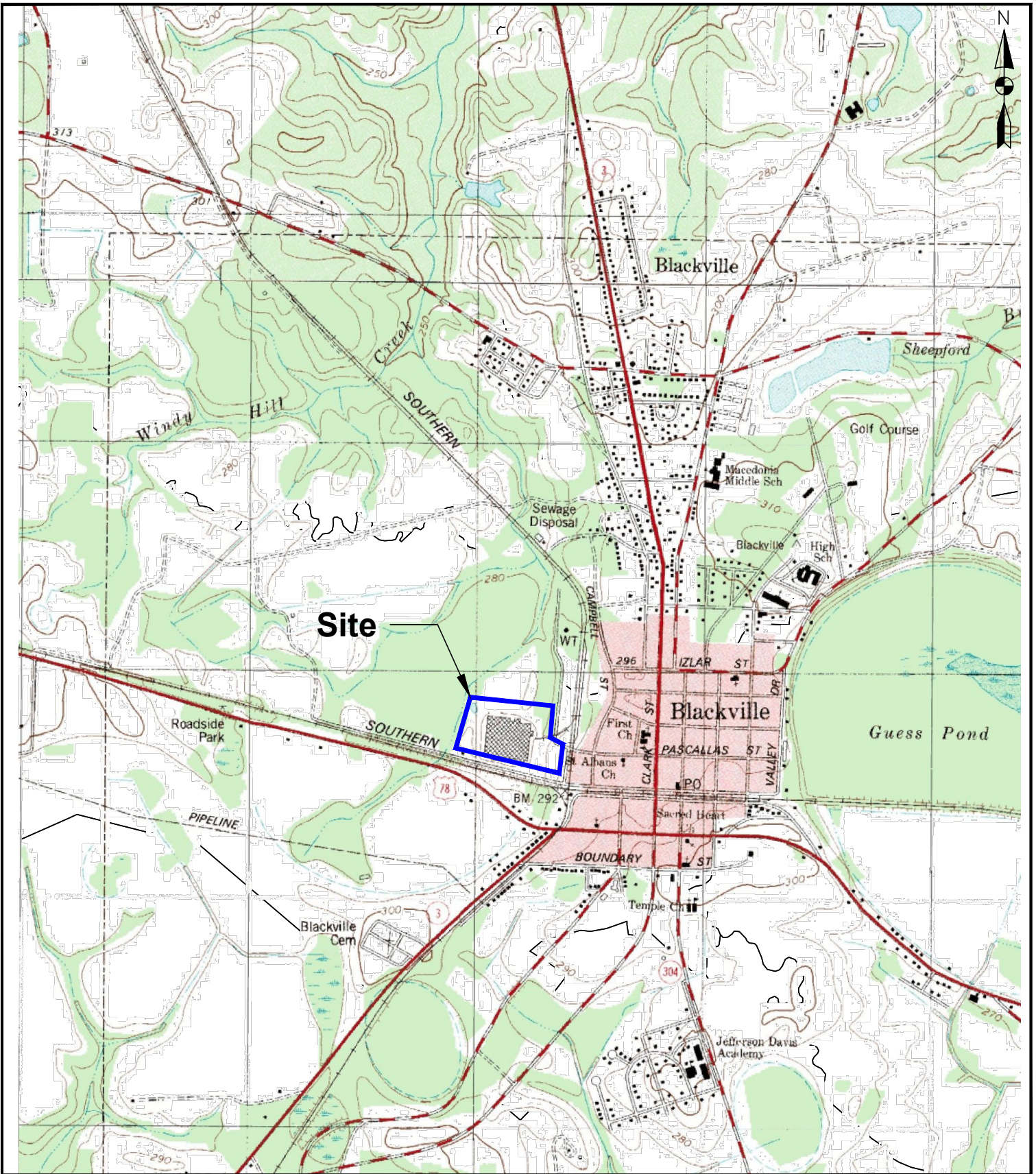
J - estimated concentration above the detection limit (DL)

Bold - Constituent detected above LOQ or DL

Prepared by: TJM 5/19/22

Checked by: MAB 6/3/22

FILE NAME: S:\Premier\Projects\Lennox International\Blackville, SC\Drawings\Lennox_Main_2017.dwg (Site Location) 03/11/22 10:25 - hphm



FORMER DUCANE COMPANY SITE
 BLACKVILLE, BARNWELL COUNTY, SOUTH CAROLINA
 BLWM FILE # 401356

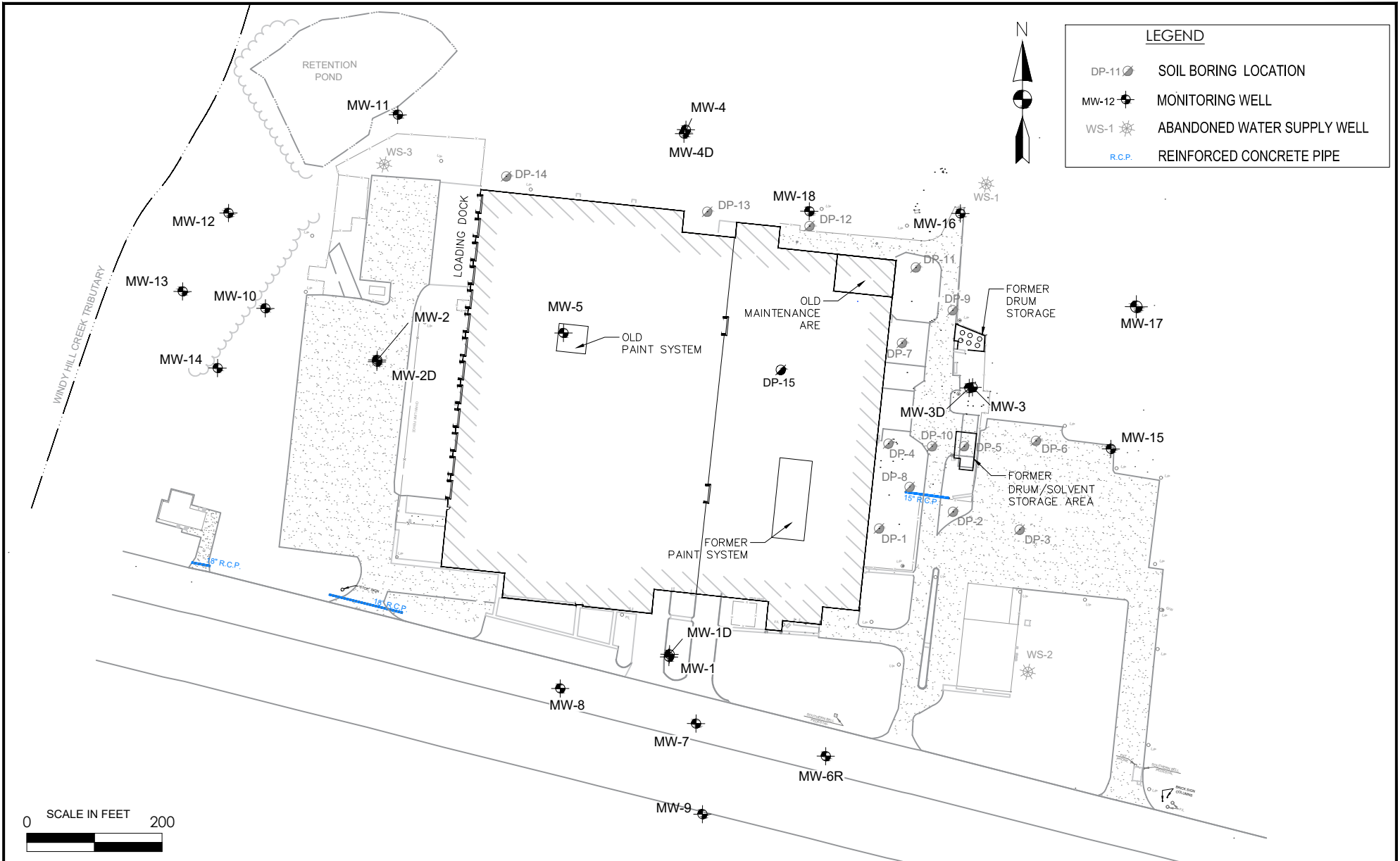


SITE LOCATION MAP

PROJECT NO. EC02.20160378.21

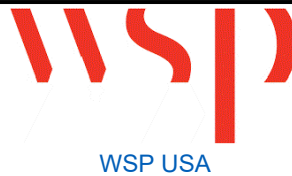
1880 WEST OAK PKWY, BLDG 100, STE 106, MARIETTA, GA, 30062

DRAWN: HVP	CHECKED: MAB	DATE: 03/11/2022	FIGURE: 1
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FORMER DUCANE COMPANY SITE
BLACKVILLE, BARNWELL COUNTY, SOUTH CAROLINA
BLWM FILE # 401356

PROJECT NO. EC02.20160378.21

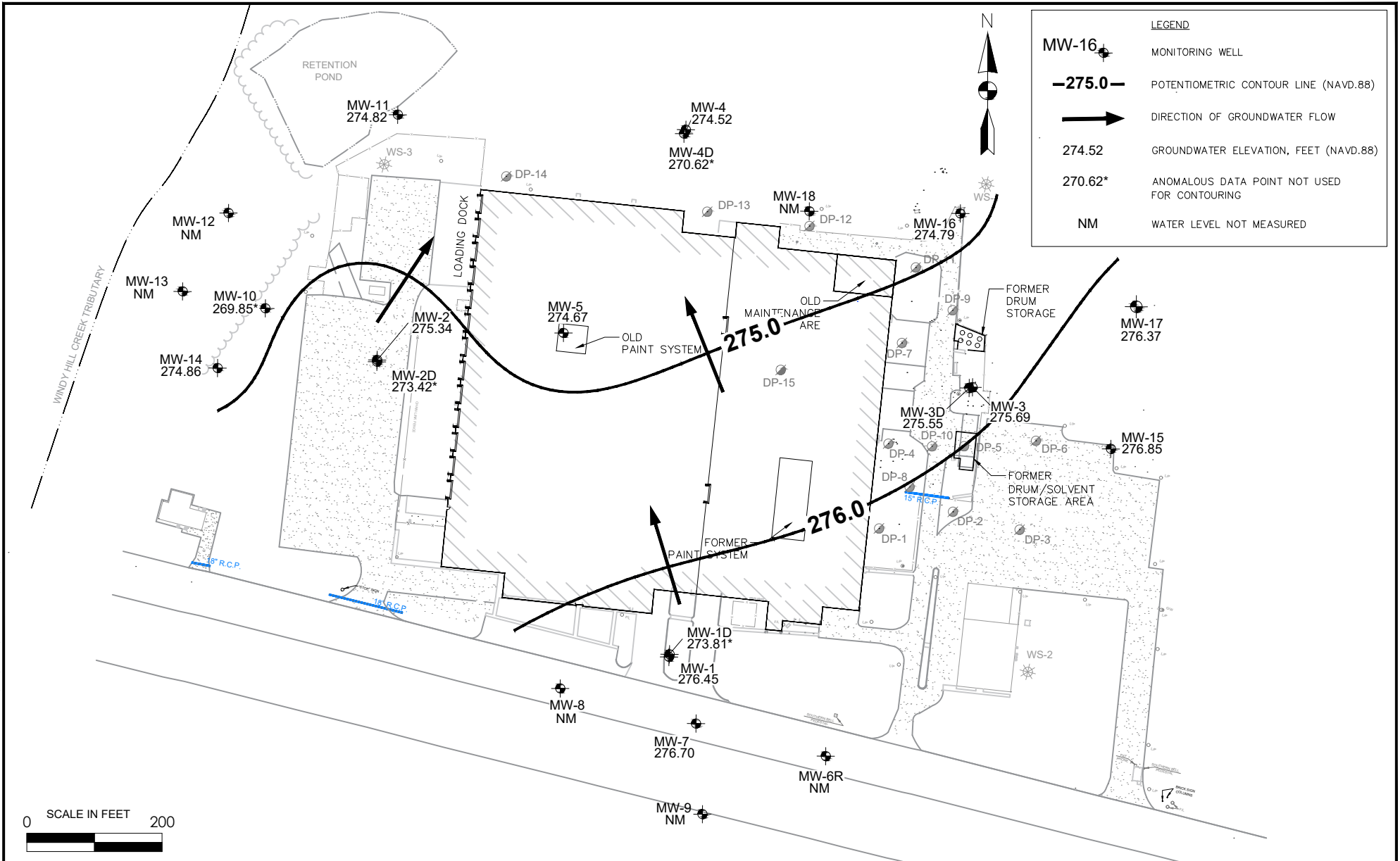


1880 WEST OAK PKWY, BLDG 100, STE 106, MARIETTA, GA, 30062

MONITORING WELL and
SOIL BORING LOCATIONS

DRAWN: HVP	CHECKED: MAB	DATE: 06/13/2022	FIGURE: 2
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FILE NAME: S:\Premier\Projects\Lennox International\Blackville, SC\Drawings\Lennox_Main_2022.dwg (POT 18Apr22) 06/13/22 15:52 - USHP700224



FORMER DUCANE COMPANY SITE
 BLACKVILLE, BARNWELL COUNTY, SOUTH CAROLINA
 BLWM FILE # 401356

PROJECT NO. EC02.20160378.21

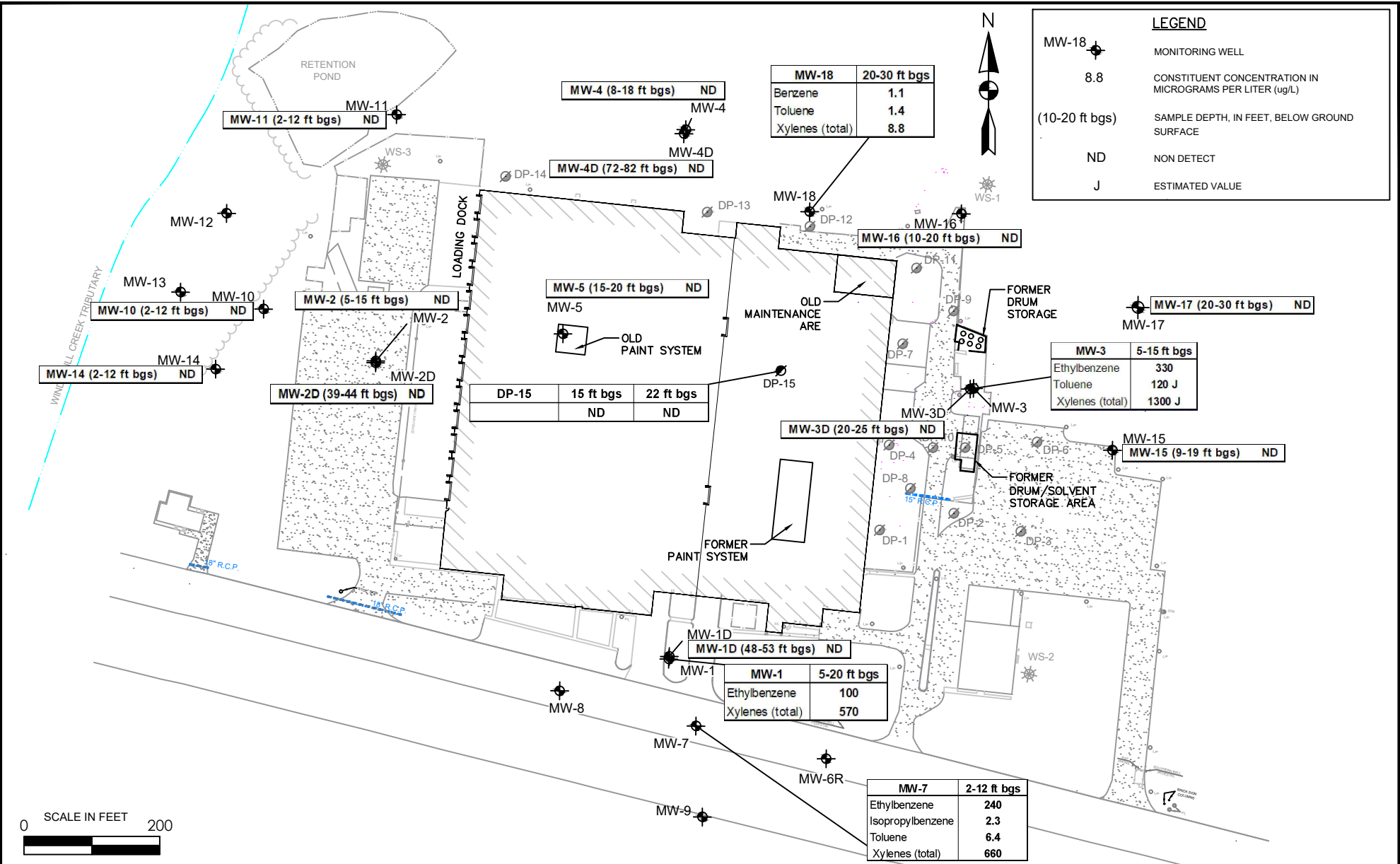


WSP USA

1880 WEST OAK PKWY, BLDG 100, STE 106, MARIETTA, GA, 30062

POTENTIOMETRIC SURFACE MAP
 APRIL 18, 2022

DRAWN: HVP	CHECKED: MAB	DATE: 06/13/2022	FIGURE: 3
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FORMER DUCANE COMPANY SITE
BLACKVILLE, BARNWELL COUNTY, SOUTH CAROLINA
BLWM FILE # 401356

PROJECT NO. EC02.20160378.21



WSP USA

1880 WEST OAK PKWY, BLDG 100, STE 106, MARIETTA, GA, 30062

GROUNDWATER ANALYTICAL RESULTS
AROMATIC HYDROCARBONS
APRIL 2022

DRAWN:	HVP	CHECKED:	MAB	DATE:	08/23/2022	FIGURE:	4
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APPENDICES

Appendix A

Summary of Field Procedures – April 2022

APPENDIX A: SUMMARY OF FIELD PROCEDURES – April 2022

A groundwater sampling event was conducted in April 2022 at the Former Ducane Company Site. The field activities are described in the following sections. Soil boring logs and a well installation diagram are provided in Appendix B. Field sampling forms are provided in Appendix C. Laboratory analytical reports are provided in Appendix E.

ADDITIONAL SOIL AND GROUNDWATER DELINEATION

One (1) soil boring was advanced inside the building and one additional monitoring well was installed at the Site in April 2022 to provide additional delineation of soil and groundwater at the facility (Figure 2). Boring DP-15 located approximately midway between MW-3 and MW-5 was advanced for the collection of groundwater samples. Monitoring well MW-18 was installed in the vicinity of previous soil boring DP-12 for the collection of groundwater samples.

The borings were advanced using a Sonic rig to a depth of 22 feet for DP-15 and 25 feet for MW-18. Soil samples from these two locations were collected continuously from ground surface to boring termination, logged for lithologic descriptions, and screened using a photoionization detector (PID). The soil boring and monitoring well locations were surveyed by American Engineering Consultants, a surveyor registered in South Carolina. The work plan indicated that groundwater samples would be collected from boring DP-15 at depths of 10 and 20 feet below ground surface (bgs). If elevated PID readings were noted in the saturated zone at an alternate depth, one additional groundwater sample would be collected at the location of the highest PID reading. Groundwater samples were collected at depths of 15 and 22 feet bgs because there was no water observed at the 10-foot interval.

Groundwater samples were collected from boring DP-15 by advancing the rods to the desired depth, retracting the sheath and rod, and collecting a groundwater sample from the screen. A peristaltic pump and polyethylene tubing were used to collect the groundwater samples. The groundwater samples were collected from the intake end and the dedicated polyethylene discharge tubing after the peristaltic pump was stopped and tubing was removed from the borehole.

The groundwater samples were placed in laboratory-supplied containers and transported, under chain-of-custody protocols, to Pace Analytical Services, LLC (SCDHEC Certification No. 32010001) in Columbia, SC (Pace). The groundwater samples were analyzed for volatile organic compounds (VOCs) using EPA Method 8260D and 1,4-dioxane using EPA Method 8260D SIM. The samples were also analyzed for dissolved gases (methane, ethane, ethane, and propane) using Method RSK-175

MONITORING WELL INSTALLATION

One Type II groundwater monitoring well (MW-18) was installed in the vicinity of previous soil boring DP-12. The well was installed to a depth of 25 feet bgs by a South Carolina certified well driller. The well is constructed with 18 feet of solid PVC riser and 10 feet of 2-inch (0.010) slot screen. Type II sand was placed around the well screen and brought to two feet above the top of screen followed by a 3-foot bentonite seal. The remaining borehole was grouted to the surface. The monitoring well was completed with a lockable steel cover installed with a 2 x 2 foot well pad surrounded by 4 bollards. An identification plate was fixed to the well and included the drillers name and certificate number, date of installation, total depth, casing depth, screened interval and well identification number. The monitoring well was developed by removing approximately 20 gallons of water.

GROUNDWATER SAMPLING

Comprehensive Groundwater Sampling Event

A groundwater sampling event was conducted from April 18 to April 20, 2022, and 17 of the 22 Site monitoring wells were sampled. Monitoring wells MW-6R and MW-8 were not sample due to damage to the wells. Monitoring wells MW-12 and MW-13 could not be located while monitoring well MW-9 is located on private property and access could not be obtained. Well construction details are provided in Table 1.

Groundwater sampling was conducted in general accordance with the United States Environmental Protection Agency (USEPA) Region 4 Laboratory Services and Applied Science Division (LSASD) Operating Procedure (OP) for *Groundwater Sampling* (as updated) using low-flow techniques. Prior to sampling, water level measurements were collected from each well and water quality parameters were measured. Water level measurements are presented in Table 2. The field parameters measured at the time of groundwater sampling are provided on the field forms in Appendix C and presented in Table 3.

Sample Containers

The laboratory provided sample containers that met the sampling requirements of the study. The laboratory verified the cleanliness of each batch of containers prior to use. The laboratory supplied the necessary preservation solutions and shipped these with the sample containers.

The field samplers took responsibility for properly identifying the location of each sample taken and for recording the sample date, the type of sample, the preservative used, and the applicable project number. This information was documented in the field book/field form. This same information was then placed on the sample identification label and the chain-of-custody record. Sample labels were filled out with indelible ink. If the field sampler determined that additional information was pertinent to a sample being taken, such data was recorded in the field book or on the field form.

Groundwater Level Measurement

Prior to well sampling, depth to groundwater and total well depth were measured using an electronic tape or water level indicator. A fixed point was marked with an indelible marker on each well to serve as a reference point for measurement. Depths were measured to the nearest 0.01 foot and recorded on the field sheet. The tape was cleaned with phosphate-free laboratory detergent and water and rinsed with distilled water prior to each use.

Well Purging

The monitoring wells were purged using a low flow/low volume method with a peristaltic pump and dedicated, disposable, polyethylene tubing. The groundwater parameters of temperature, pH, specific conductivity, dissolved oxygen (DO), oxidation-reduction potential (ORP), and turbidity were measured during purging.

Purging continued until a minimum of three consecutive stable readings were measured with five to fifteen-minute intervals between readings. Pumping rates were reduced as much as possible to reduce the amount of drawdown in the wells.

Purging was considered complete after the depth to water and water quality parameters stabilized. Purge water from the wells was temporarily placed in five-gallon buckets and emptied into a 55-gallon steel drum. Additional information regarding the purging and sampling activities including the volume of water in each well, purge rate, and depth to water during the purge process are provided in the field sampling forms in Appendix C.

Groundwater Sampling and Analysis

Groundwater samples were collected after the water level in the well stabilized and after the pH and specific conductance measurements stabilized. A peristaltic pump and polyethylene tubing were used to collect the groundwater samples. The groundwater samples were collected from the intake end of the dedicated polyethylene discharge tubing after the peristaltic pump was stopped and the tubing was removed from the well. The groundwater samples were placed into laboratory supplied pre-preserved containers, labeled, and recorded on a Chain-of-Custody form. The containers were then placed in a cooler on ice and transported to Pace.

The groundwater samples were analyzed for VOCs by EPA Method 8260D and 1,4-dioxane using EPA Method 8260D SIM. Groundwater samples were also analyzed for the monitored natural attenuation (MNA) parameters nitrate, sulfate, sulfide, chloride, alkalinity, total organic carbon (TOC) and dissolved gasses (ethane, ethene, methane and propane). Field measurements of ferrous iron were also collected. A summary of the organic analytical results is provided in Table 4 while the MNA results are provided in Table 5. The laboratory analytical reports are provided in Appendix E.

Decontamination Procedures

Decontamination procedures consisted of the use of dedicated, disposable tubing at each sampling location. Equipment such as the water level indicator and field measurement instrumentation were cleaned with phosphate-free laboratory detergent and rinsed with distilled water in general accordance with the EPA Region 4 LSASD Operating Procedure for *Field Equipment Cleaning and Decontamination* (as updated). The equipment was allowed to air dry. Nitrile gloves were also worn and changed between each sampling location.

Equipment Calibration

Equipment used to perform field testing on groundwater samples included a Hanna HI98703 turbidity meter and a YSI PRODSS with flow thru cell meter to measure pH, specific conductivity, temperature, dissolved oxygen, ORP, and turbidity. Equipment calibration was verified daily.

Field Sampling Forms

Field personnel maintained a permanently bound, water resistant field notebook. Field activities were recorded with indelible ink. Additionally, sampling field forms were completed for each groundwater sample from the monitoring wells (excluding the vertical delineation samples). The notebook, sampling forms, and chain-of-custody records contain sufficient information to allow reconstruction of the sample collection and handling procedures at a later time.

Chain-of-Custody

Sample custody was documented from the time of sample collection when the labeled sample was placed into an iced cooler in the possession of the sampling technician. A corresponding line item on the chain-of-custody record was filled out and initialed by the sampling technicians. The chain-of-custody record is used to track custody of samples during transport and shipping. Upon completion of appropriate line items, or upon sample pick-up, the field representative signed, dated, listed the time, and confirmed the completeness of descriptive information contained on the form. The chain-of-custody form accompanied the samples and terminated upon laboratory receipt of samples. All entries were recorded in ink. Each sample had a corresponding entry on a chain-of-custody record with the exceptions of sample TB-03, which was received by the laboratory but not listed on the chain-of-custody record. This sample was added for laboratory testing.

Analytical Procedures and QA/QC

Soil and groundwater samples were transported to Pace under chain-of-custody protocols. The samples were analyzed for VOCs by EPA Method 8260D and 1,4-dioxane by EPA Method 8260D SIM. Quality control samples, consisting of blind duplicates, trip blanks, and laboratory method blanks were also collected and analyzed for these parameters. The data validation summary and laboratory analytical reports are provided in Appendix E.

Appendix B

Soil Boring Logs and Well Construction Diagram

CLIENT: Lennox International PROJECT NAME: Lennox, Blackville, SC
 PROJECT NUMBER: EC02.20160378.21 PROJECT LOCATION: Blackville, SC
 DATE STARTED: 4/19/22 COMPLETED: 4/19/22 GROUND ELEVATION: 276.98 HOLE SIZE: 6.25 inches
 DRILLING CONTRACTOR: Cascade GROUNDWATER LEVELS:
 DRILLING METHOD: Sonic ∇ AT TIME OF DRILLING 10.00 ft
 LOGGED BY: Joe Booth CHECKED BY: Mary Ann Brookshine AT END OF DRILLING ---
 NOTES: Well Permit No. MW-13200 ∇ AFTER DRILLING 5.35 ft

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (NVALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0						Casing Type: 2" PVC-2.9' stick up
			PID = 0.1		SANDY CLAY, gray/orange, medium compaction, high plasticity	<p>Bentonite Seal</p> <p>GP-1A Sand-Pack</p> <p>2-inch diameter PVC 0.01 slotted screen from 15-25 bgs.</p>
			PID = 0.2		(CL) SANDY CLAY, gray/orange, medium compaction, high capacity	
			PID = 1.9		(OH) SANDY SILT, tan/gray	
5					∇ (SC-SM) CLAYED SAND, gray/orange	
			PID = 0.8		(SC) SAND, gray/tan fine	
			PID = 0.7		(CL) SANDY CLAY, tan/orange, fine, wet, high compaction, low plasticity	
10					(OH) SANDY SILT, olive/tan sandy clay, low compaction, high plasticity	
			PID = 0.2		(OH) SANDY SILT, tan/gray	
			PID = 0.3		(OH) SANDY SILT, tan/gray	
			PID = 0.1		(CL) SANDY CLAY, olive/tan, low compaction, high capacity	
			PID = 0.3		(CL) SANDY CLAY, olive/tan, low compaction, high capacity	
			PID = 0.8			
			PID = 0.7			
			PID = 0.2			
			PID = 0.1			
25					Bottom of borehole at 25.0 feet.	

S:\Premier\Projects\Lennox International\Blackville, SC\Drawings\Boring Logs.dwg (MW-18) 09/02/22 12:15 - USHP700224

Appendix C
Field Sampling Forms – April 2022

Groundwater Sampling Record

WELL No. MW-1 PROJECT # 02.20160378.00 LOCATION: Blackville, SC DATE 4/19/22
 SAMPLE No. PROJECT NAME: Lennox, Blackville, SC FIELD PERSONNEL/COMPANY: T. Messier
 SAMPLE TIME: 15:20 SITE: FIELD CONDITIONS/WEATHER 61° Sunny

Well Condition Inspection (circle one)
 cover: locked not locked
 number: legible not legible
 outer casing: good fair poor
 inner casing: good fair poor
 well photographed: yes no

Equipment Cleaning Procedures
 - potable water and phosphate-free soap
 - potable water rinse
 - water rinse: distilled deionized
 - solvent rinse: acetone hexane
 - air

Casing Diameter: (circle one) 2" 4" 6" Other: _____
 Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$
 Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47
 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56

Depth to Water (feet): 5.70 Measuring Point Elevation (feet): _____
 Depth of Well (feet): 21.9 Groundwater Surface Elevation: _____
 Water Column (feet): 16.2 LNAPL present: _____ thickness: _____
 Casing Volume (gallons/liters): 2.64 DNAPL present: _____ thickness: _____
 Calculated Purge Volume (gallons/liters): 8.0 Remarks: _____
 Actual Purge Volume (gallons/liters): _____
 Pump Intake Depth (feet): 2.5 Ferrous Iron (mg/L): 1.14 mg/L

Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME .00 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µS/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/REMARKS
14:40	0								PURGE START
14:45	0.10	19.9	4.82	0.46	177.4	74.9	48.0	5.90	clear
14:50	0.20	19.9	4.80	0.27	178.0	77.5	23.6	5.83	clear
14:55	0.30	20.0	4.79	0.26	116.8	79.1	23.5	5.83	clear
15:00	0.40	20.0	4.78	0.28	115.7	78.1	13.6	5.83	clear
15:05	0.50	20.0	4.78	0.23	113.9	79.7	11.8	5.83	clear
15:10	0.60	20.1	4.79	0.19	113.6	80.3	9.6	5.83	clear

Measurement and Sampling Equipment

Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	4-19-22
Turbidity	HF Scientific	Micro TPW 20000	4-19-22
Peristaltic Pump	Geotech	Geopump	N/A

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/AI/K	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	

*DUP-1 collected

Groundwater Sampling Record

WELL No. MW-1D PROJECT # 02.20160378.00 LOCATION: Blackville, SC DATE 4/19/22
 SAMPLE No. PROJECT NAME: Lennox, Blackville, SC FIELD PERSONNEL/COMPANY: J. Messier
 SAMPLE TIME: 4:20 SITE: FIELD CONDITIONS/WEATHER 59° Sunny

Well Condition Inspection (circle one)
 cover: locked not locked
 number: legible not legible
 outer casing: good fair poor
 inner casing: good fair poor
 well photographed: yes no

Equipment Cleaning Procedures
 - potable water and phosphate-free soap
 - potable water rinse
 - water rinse: distilled deionized
 - solvent rinse: acetone hexane
 - air

Casing Diameter: (circle one) 2" 4" 6" Other: _____
 Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$
 Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47
 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56

Depth to Water (feet): 0.25 Measuring Point Elevation (feet): _____
 Depth of Well (feet): 21.9 52.6 Groundwater Surface Elevation: _____
 Water Column (feet): 44.35 LNAPL present: _____ thickness: _____
 Casing Volume (gallons/liters): 7.22 DNAPL present: _____ thickness: _____
 Calculated Purge Volume (gallons/liters): 2.2
 Actual Purge Volume (gallons/liters): 0.70
 Pump Intake Depth (feet): ~50 Ferrous Iron (mg/L): 0.11 mg/L

Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME :00 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/REMARKS
13:40	0								PURGE START
13:45	0.10	20.8	5.75	6.62	275.8	16.6	3.79	8.80	clear
13:56	0.20	20.7	5.15	6.59	277.2	16.9	1.85	8.83	clear
13:55	0.30	20.8	5.74	6.62	278.6	16.7	1.28	8.83	clear
14:00	0.40	20.8	5.74	6.61	277.8	16.7	4.71	8.85	clear
14:05	0.50	21.0	5.75	6.06	258.8	17.2	6.40	8.85	clear
14:10	0.60	21.0	5.75	6.08	255.6	17.6	5.19	8.80	clear
14:15	0.70	21.0	5.75	6.10	256.6	17.6	4.92	8.80	clear

Measurement and Sampling Equipment

Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	4.19.22
Turbidity	HF Scientific	Micro TPW 20000	4.19.22
Peristaltic Pump	Geotech	Geopump	N/A

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/AIK	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	

DUP-1 collected TM

Groundwater Sampling Record

WELL No. MW-1 UN-2 PROJECT # 02.20160378.00 LOCATION: Blackville, SC DATE 4/19/22
 SAMPLE No. PROJECT NAME: Lennox, Blackville, SC FIELD PERSONNEL/COMPANY: T. Messier
 SAMPLE TIME: 12:30 SITE: FIELD CONDITIONS/WEATHER 55° Sunny

Well Condition Inspection (circle one)
 cover: locked not locked
 number: legible not legible
 outer casing: good fair poor
 inner casing: good fair poor
 well photographed: yes no

Equipment Cleaning Procedures
 - potable water and phosphate-free soap
 - potable water rinse
 - water rinse: distilled deionized
 - solvent rinse: acetone hexane
 - air dry

Casing Diameter: (circle one) 2" 4" 6" Other: _____
 Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$
 Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47
 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56

Depth to Water (feet): 2.66
 Depth of Well (feet): 24.9 16.80
 Water Column (feet): 16.14
 Casing Volume (gallons/liters): 2.6
 Calculated Purge Volume (gallons/liters): 3
 Actual Purge Volume (gallons/liters): _____
 Pump Intake Depth (feet): ~40

Measuring Point Elevation (feet): _____
 Groundwater Surface Elevation: _____
 LNAPL present: _____ thickness: _____
 DNAPL present: _____ thickness: _____
 Remarks: _____
 Ferrous Iron (mg/L): 0.30 mg/L

Well Evacuation
 Water level recovery is: very slow slow moderate fast
 Bailed dry: yes no

TIME 100 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/ REMARKS
11:55	0								PURGE START
12:00	0.15	19.0	4.80	1.69	339.6	44.0	7.30	2.76	clear
12:05	0.25	19.0	4.59	1.39	346.5	44.4	8.46	2.76	clear
12:10	0.45	19.0	4.58	1.43	347.6	44.1	7.14	2.76	clear
12:15	0.65	19.0	4.57	1.44	347.8	44.6	7.09	2.76	clear
12:20	0.85	19.0	4.58	1.46	347.7	44.5	6.98	2.76	clear
12:25	1.0	19.0	4.57	1.44	346.3	44.3	6.88	2.76	clear

Measurement and Sampling Equipment

Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	4/19/22
Turbidity	HF Scientific	Micro TPW 20000	4/19/22
Peristaltic Pump	Geotech	Geopump	NA

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Aik	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	

DUP-1 collected

Groundwater Sampling Record

WELL No. MW-1-2D PROJECT # 02.20160378.00 LOCATION: Blackville, SC DATE 4/19/22
 SAMPLE No. PROJECT NAME: Lennox, Blackville, SC FIELD PERSONNEL/COMPANY: J. Messier
 SAMPLE TIME: 11:30 SITE: FIELD CONDITIONS/WEATHER: 54° Sunny

Well Condition Inspection (circle one)
 cover: locked not locked
 number: legible not legible
 outer casing: good fair poor
 inner casing: good fair poor
 well photographed: yes no

Equipment Cleaning Procedures
 - potable water and phosphate-free soap
 - potable water rinse
 - water rinse: distilled deionized
 - solvent rinse: acetone hexane
 - all dry

Casing Diameter: 2" 4" 6" Other: _____
 Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$
 Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47
 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56

Depth to Water (feet): 4.05 Measuring Point Elevation (feet): _____
 Depth of Well (feet): 21.9 44.20 Groundwater Surface Elevation: _____
 Water Column (feet): 40.15 LNAPL present: _____ thickness: _____
 Casing Volume (gallons/liters): 6.5 DNAPL present: _____ thickness: _____
 Calculated Purge Volume (gallons/liters): 20 Remarks: _____
 Actual Purge Volume (gallons/liters): 0.65
 Pump Intake Depth (feet): 42 Ferrous Iron (mg/L): 0.17 mg/L

Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME 00 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/ REMARKS
10:55	0								PURGE START
11:00	0.15	19.0	5.73	6.36	232.6	23.0	16.1	5.20	clear
11:05	0.25	19.1	5.71	6.20	240.9	22.8	5.30	5.71	clear
11:10	0.35	19.0	5.73	6.18	250.1	22.8	1.99	6.19	clear
11:15	0.45	19.2	5.71	6.18	252.2	22.7	1.74	6.40	clear
11:20	0.55	19.2	5.72	6.17	254.7	22.7	1.44	6.55	clear
11:25	0.65	19.2	5.72	6.18	255.8	22.7	1.26	6.60	clear

Measurement and Sampling Equipment

Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	16003 4/19/22
Turbidity	HF Scientific	Micro TPW 20000	21021 4/19/22
Peristaltic Pump	Geotech	Geopump	21013 J/M

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Aik	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	

DUP-4 collected

J/M

Groundwater Sampling Record

WELL No. MW-1 UN-3D PROJECT # 02.20160378.00 LOCATION: Blackville, SC DATE 4/20/22
 SAMPLE No. PROJECT NAME: Lennox, Blackville, SC FIELD PERSONNEL/COMPANY: T. Messier
 SAMPLE TIME: 11:30 SITE: FIELD CONDITIONS/WEATHER 57° Sunny

Well Condition Inspection (circle one)
 cover: locked not locked
 number: legible not legible
 outer casing: good fair poor
 inner casing: good fair poor
 well photographed: yes no

Equipment Cleaning Procedures
 - potable water and phosphate-free soap
 - potable water rinse
 - water rinse: distilled deionized
 - solvent rinse: acetone hexane
 - air

Casing Diameter: (circle one) 2" 4" 6" Other: _____
 Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$
 Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47
 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56

Depth to Water (feet): 4.60 Measuring Point Elevation (feet): _____
 Depth of Well (feet): 21.9 28.0 Groundwater Surface Elevation: _____
 Water Column (feet): 23.4 LNAPL present: _____ thickness: _____
 Casing Volume (gallons/liters): 3.8 DNAPL present: _____ thickness: _____
 Calculated Purge Volume (gallons/liters): 11 Remarks: _____
 Actual Purge Volume (gallons/liters): 0.70
 Pump Intake Depth (feet): ~10 Ferrous Iron (mg/L): 0.08 mg/L

Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME 00 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/ REMARKS
10:45	0								PURGE START
10:50	0.10	16.6	4.21	4.30	399.7	71.6	2.66	4.90	clear
10:55	0.20	15.8	4.21	3.92	407.6	71.7	0.74	4.85	clear
11:00	0.30	17.0	4.20	3.91	414.6	72.6	0.83	4.85	clear
11:05	0.40	17.1	4.20	3.88	414.5	73.1	0.58	4.85	clear
11:10	0.50	17.2	4.20	3.84	415.2	73.5	0.67	4.85	clear
11:15	0.60	17.2	4.21	3.84	415.9	73.4	0.57	4.85	clear
11:20	0.70	17.2	4.21	3.86	416.1	73.3	0.48	4.85	clear

Measurement and Sampling Equipment

Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	16003
Turbidity	HF Scientific	Micro TPW 20000	21021
Peristaltic Pump	Geotech	Geopump	21013

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Aik	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	

DUP-1 collected

Groundwater Sampling Record

WELL No. MW-4D PROJECT # 02.20160378.00 LOCATION: Blackville, SC DATE 4/2/22
 SAMPLE No. PROJECT NAME: Lennox, Blackville, SC FIELD PERSONNEL/COMPANY: Joe Bost
 SAMPLE TIME: 1442 SITE: FIELD CONDITIONS/WEATHER 68° Sunny

Well Condition Inspection (circle one)
 cover: locked not locked
 number: legible not legible
 outer casing: good fair poor
 inner casing: good fair poor
 well photographed: yes no

Equipment Cleaning Procedures
 - potable water and phosphate-free soap
 - potable water rinse
 - water rinse: distilled deionized
 - solvent rinse: acetone hexane
 - air dry

Casing Diameter: (circle one) 4" 6" Other: _____
 Casing Volume Calculation: $(\pi^2h)(7.48 \text{ gal/ft}^3)$
 Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47
 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56

Depth to Water (feet): 9.00 Measuring Point Elevation (feet): _____
 Depth of Well (feet): 240- 78.75 Groundwater Surface Elevation: _____
 Water Column (feet): 69.75 LNAPL present: _____ thickness: _____
 Casing Volume (gallons/liters): 11.37 DNAPL present: _____ thickness: _____
 Calculated Purge Volume (gallons/liters): .60
 Actual Purge Volume (gallons/liters): .5
 Pump Intake Depth (feet): 72' Ferrous Iron (mg/L): 0.08 mg/L

Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME :00 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/REMARKS
1410	0								PURGE START
1415	0.1	18.9	5.01	3.20	266.5	19.4	1.97	9.17	NONE
1420	0.2	18.6	4.75	3.17	266.5	19.3	1.90	9.17	"
1425	0.3	18.6	4.76	3.17	266.5	19.3	1.91	9.17	"
1430	0.4	18.6	4.75	3.17	263.4	19.2	1.87	9.17	"
1435	0.5	18.6	4.76	3.17	263.1	19.2	1.80	9.17	"
Sampled (4) 1442									

Measurement and Sampling Equipment

Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	
Turbidity	HF Scientific	Micro TPW 20000	
Peristaltic Pump	Geotech	Geopump	

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/AIK	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	

Groundwater Sampling Record

WELL No. MW-5 PROJECT # 02.20160378.00 LOCATION: Blackville, SC DATE 4.20.22
 SAMPLE No. PROJECT NAME: Lennox, Blackville, SC FIELD PERSONNEL/COMPANY: Tiffany Messier
 SAMPLE TIME: 09:40 SITE: FIELD CONDITIONS/WEATHER Sunny 68°

Well Condition Inspection (circle one)
 cover: locked not locked
 number: legible not legible
 outer casing: good fair poor
 inner casing: good fair poor
 well photographed: yes no

Equipment Cleaning Procedures
 - potable water and phosphate-free soap
 - potable water rinse
 - water rinse: distilled deionized
 - solvent rinse: acetone hexane
 - air dry

Casing Diameter: (circle one) 2" 4" 6" Other: 1"
 Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$ 1" - 0.041
 Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47
 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56

Depth to Water (feet): 5.18 Measuring Point Elevation (feet):
 Depth of Well (feet): 19.7 Groundwater Surface Elevation:
 Water Column (feet): 14.52 LNAPL present: NA thickness:
 Casing Volume (gallons/liters): 0.59 DNAPL present: NA thickness:
 Calculated Purge Volume (gallons/liters): 1.78 Remarks:
 Actual Purge Volume (gallons/liters):
 Pump Intake Depth (feet): 18.0 Ferrous Iron (mg/L): 1.55 mg/L

Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/REMARKS
09:05	0								PURGE START
09:10	0.10	17.7	3.28	5.06	322.9	168.2	3.78	—	clear
09:15	0.20	18.2	3.28	2.78	315.8	159.2	3.47	—	
09:20	0.30	18.2	3.31	0.71	316.8	150.3	2.89	—	
09:25	0.40	18.2	3.30	0.72	317.9	151.6	1.68	—	
09:30	0.50	18.2	3.30	0.77	315.4	151.5	1.27	—	
09:35	0.60	18.2	3.30	0.72	316.4	151.7	1.11	—	clear

Measurement and Sampling Equipment

Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556 16003	4.20.22
Turbidity	HF Scientific	Micro TPW 20000 21021	4.20.22
Peristaltic Pump	Geotech	Geopump 21023	NA

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Aik	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	

— DUP-1 collected TM

Groundwater Sampling Record

WELL No. MW-1 PROJECT # 02.20160378.00 LOCATION: Blackville, SC DATE 4/20/22
 SAMPLE No. PROJECT NAME: Lennox, Blackville, SC FIELD PERSONNEL/COMPANY: T. Messier
 SAMPLE TIME: 09:10 SITE: FIELD CONDITIONS/WEATHER

Well Condition Inspection (circle one)
 cover: locked not locked
 number: legible not legible
 outer casing: good fair poor
 inner casing: good fair poor
 well photographed: yes no

Equipment Cleaning Procedures
 - potable water and phosphate-free soap X
 - potable water rinse
 - water rinse: distilled deionized
 - solvent rinse: acetone hexane
 - air dry X

Casing Diameter: (circle one) 4"
 Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$ 0.041
 Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47
 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56

Depth to Water (feet): 4.40 Measuring Point Elevation (feet): _____
 Depth of Well (feet): 21.9 Groundwater Surface Elevation: _____
 Water Column (feet): 10.6 LNAPL present: _____ thickness: _____
 Casing Volume (gallons/liters): 0.4 DNAPL present: _____ thickness: _____
 Calculated Purge Volume (gallons/liters): 1.20 Remarks: _____
 Actual Purge Volume (gallons/liters): 0.50
 Pump Intake Depth (feet): 12 Ferrous Iron (mg/L): 3.30 mg/L

Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME 00 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/ REMARKS
08:30	0								PURGE START
08:35	0.10	14.8	5.23	1.28	13.0	114.3	31.6	—	P/clear
08:40	0.15	14.5	5.33	1.01	25.8	81.0	30.1	—	" "
08:45	0.20	14.2	5.34	0.62	9.7	7.0	18.1	—	clear
08:50	0.30	14.3	5.34	0.40	0.5	87.1	13.2	—	clear
09:00	0.40	14.3	5.34	0.43	0.6	78.8	10.6	—	clear
09:05	0.50	14.3	5.34	0.44	0.5	77.1	9.8	—	clear

Measurement and Sampling Equipment

Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556 16003	4/20/22
Turbidity	HF Scientific	Micro TPW 20000 21021	4/20/22
Peristaltic Pump	Geotech	Geopump 21013	

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Aik	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	

DUP-1 collected (initials)

Groundwater Sampling Record

WELL No. MW-11 PROJECT # 02.20160378.00 LOCATION: Blackville, SC DATE 4/20/22
 SAMPLE No. PROJECT NAME: Lennox, Blackville, SC FIELD PERSONNEL/COMPANY: Joe Batten
 SAMPLE TIME: 950 SITE: FIELD CONDITIONS/WEATHER 45° sunny

Well Condition Inspection (circle one)
 cover: locked not locked
 number: legible not legible
 outer casing: good fair poor
 inner casing: good fair poor
 well photographed: yes no

Equipment Cleaning Procedures
 - potable water and phosphate-free soap
 - potable water rinse
 - water rinse: distilled deionized
 - solvent rinse: acetone hexane
 - air dry

Casing Diameter: (circle one)
 2" 4" 6" Other: 1"

Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$
 Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47
 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56

Depth to Water (feet): 6.22
 Depth of Well (feet): 9.59
 Water Column (feet): 3.37
 Casing Volume (gallons/liters): 0.30
 Calculated Purge Volume (gallons/liters):
 Actual Purge Volume (gallons/liters):
 Pump Intake Depth (feet): 9

Measuring Point Elevation (feet):
 Groundwater Surface Elevation:
 LNAPL present: thickness:
 DNAPL present: thickness:
 Remarks:
 Ferrous Iron (mg/L): 0.67 mg/L

Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME 00 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/ REMARKS
852	0								PURGE START
856	0.05	15.7	5.05	2.11	178.5	65.9	33.4	6.64	NONE
900	0.10	15.6	4.70	1.92	157.7	72.4	19.8	6.65	"
904	0.15	15.7	4.70	1.79	155.6	73.6	15.7	6.65	"
908	0.20	15.7	4.71	1.76	153.2	74.4	15.9	6.64	"
912	0.25	15.4	4.74	1.73	148.9	76.8	15.6	6.66	"
916	0.30	15.2	4.90	1.69	140.7	82.8	15.7	6.66	"
920	0.35	15.9	4.88	1.67	130.9	89.8	13.8	6.66	"
026	0.40	15.9	4.93	1.65	125.5	94.4	13.3	6.66	"
930	0.45	15.9	4.94	1.65	122.8	95.9	12.3	6.66	"
934	0.50	15.9	4.93	1.65	123.5	95.8	11.0	6.66	"
938	0.55	15.9	4.94	1.66	123.9	96.2	9.44	6.67	"
0942	0.60	15.9	4.95	1.65	123.7	94.7	4.63	6.67	"
Sampled @ 0950									

Measurement and Sampling Equipment

Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	
Turbidity	HF Scientific	Micro TPW 20000	
Peristaltic Pump	Geotech	Geopump	

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Aik	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	

1151

Groundwater Sampling Record

WELL No. MW-14 PROJECT # 02.20160378.00 LOCATION: Blackville, SC DATE 4.20.22
 SAMPLE No. PROJECT NAME: Lennox, Blackville, SC FIELD PERSONNEL/COMPANY: Tiffany HESSLER
 SAMPLE TIME: 15:20 SITE: Lennox FIELD CONDITIONS/WEATHER: Sunny 68°

Well Condition Inspection (circle one)
 cover: locked not locked
 number: legible not legible
 outer casing: good fair poor
 inner casing: good fair poor
 well photographed: yes no

Equipment Cleaning Procedures
 - potable water and phosphate free soap
 - potable water rinse
 - water rinse: distilled deionized
 - solvent rinse: acetone hexane
 - air, dry

Casing Diameter: (circle one)
 2" 4" 6" Other: 1 1/2"

Casing Volume Calculation: ($\pi r^2 h$) (7.48 gal/ft³)
 Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47
 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56

Depth to Water (feet): 6.36 Measuring Point Elevation (feet):
 Depth of Well (feet): 13.41 Groundwater Surface Elevation:
 Water Column (feet): 7.05 LNAPL present: N/A thickness:
 Casing Volume (gallons/liters): 0.28 DNAPL present: N/A thickness:
 Calculated Purge Volume (gallons/liters): 0.86
 Actual Purge Volume (gallons/liters): 0.40
 Pump Intake Depth (feet): ~ 12.5 Ferrous Iron (mg/L): 1.78 mg/L

Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/REMARKS
14:25	0								PURGE START
14:56	0.05	17.0	5.00	0.54	176.8	47.8	21.1	—	clear
14:55	0.10	17.3	5.04	0.44	164.9	46.0	12.1	—	
15:00	0.15	17.5	5.05	0.39	159.8	44.8	13.5	—	
15:05	0.20	17.4	5.09	0.36	152.1	43.5	11.07	—	✓
15:10	0.30	17.4	5.10	0.32	150.1	43.4	8.08	—	
15:15	0.40	17.5	5.11	0.30	149.1	43.3	5.01	—	clear

Measurement and Sampling Equipment

Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556 16003	4.20.22
Turbidity	HF Scientific	Micro TPW 20000 21021	4.20.22
Peristaltic Pump	Geotech	Geopump 21013	N/A

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Aik	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	

-DUR-4-collected- JW

Groundwater Sampling Record

WELL No. MW-1 15 PROJECT # 02.20160378.00 LOCATION: Blackville, SC DATE 4/19/22
 SAMPLE No. PROJECT NAME: Lennox, Blackville, SC FIELD PERSONNEL/COMPANY: T. Messier
 SAMPLE TIME: 10:30 SITE: FIELD CONDITIONS/WEATHER: 50° Sunny / Clear

Well Condition Inspection (circle one)
 cover: locked not locked
 number: legible not legible
 outer casing: good fair poor
 inner casing: good fair poor
 well photographed: yes no

Equipment Cleaning Procedures
 - potable water and phosphate-free soap
 - potable water rinse
 - water rinse: distilled deionized
 - solvent rinse: acetone hexane
 - air dry

Casing Diameter: (circle one) 2" 4" 6" Other: _____
 Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$
 Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47
 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56

Depth to Water (feet): 6.01 Measuring Point Elevation (feet): _____
 Depth of Well (feet): 21.8 21.8 Groundwater Surface Elevation: _____
 Water Column (feet): 15.79 LNAPL present: _____ thickness: _____
 Casing Volume (gallons/liters): 2.5 DNAPL present: _____ thickness: _____
 Calculated Purge Volume (gallons/liters): 15.0 Remarks: _____
 Actual Purge Volume (gallons/liters): 1.0
 Pump Intake Depth (feet): 15 Ferrous Iron (mg/L): 0.82 mg/L

Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME 00 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/ REMARKS
09:40	0								PURGE START
09:45	0.15	17.2	5.49	0.84	216.2	73.0	119	6.19	P/Clear
09:50	0.25	17.0	5.49	0.36	198.2	72.9	111	6.19	" "
09:55	0.35	17.0	5.49	0.30	196.8	72.4	110	6.19	" "
10:00	0.45	17.0	5.49	0.24	193.6	72.0	85.7	6.19	" "
10:05	0.55	16.9	5.49	0.21	191.7	71.7	68.7	6.19	clear
10:10	0.65	17.0	5.49	0.20	191.7	71.5	49.9	6.19	clear
10:15	0.75	17.0	5.49	0.19	192.7	71.2	35.2	6.19	clear
10:20	0.85	17.0	5.49	0.19	193.7	70.9	19.3	6.19	clear
10:25	1.0	17.0	5.48	0.18	194.4	70.6	9.9	6.19	clear

Measurement and Sampling Equipment

Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	4/19/22
Turbidity	HF Scientific	Micro TPW 20000	4/19/22
Peristaltic Pump	Geotech	Geopump	N/A

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Alk	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	

DUP-1 collected PM

Groundwater Sampling Record

WELL No. MW-1 UN-16 PROJECT # 02.20160378.00 LOCATION: Blackville, SC DATE 4/20/22
 SAMPLE No. PROJECT NAME: Lennox, Blackville, SC FIELD PERSONNEL/COMPANY: T. Messier
 SAMPLE TIME: 10:05 SITE: FIELD CONDITIONS/WEATHER 48° Sunny

Well Condition Inspection (circle one)
 cover: locked not locked
 number: legible not legible
 outer casing: good fair poor
 inner casing: good fair poor
 well photographed: yes no

Equipment Cleaning Procedures
 - potable water and phosphate-free soap
 - potable water rinse
 - water rinse: distilled deionized
 - solvent rinse: acetone hexane
 - air dry

Casing Diameter: (circle one) 2 4" 6" Other: _____
 Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$
 Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47
 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56

Depth to Water (feet): 3.85 Measuring Point Elevation (feet): _____
 Depth of Well (feet): 24.9 22.45 Groundwater Surface Elevation: _____
 Water Column (feet): 10.6 LNAPL present: _____ thickness: _____
 Casing Volume (gallons/liters): 3.0 DNAPL present: _____ thickness: _____
 Calculated Purge Volume (gallons/liters): 3.4 Remarks: _____
 Actual Purge Volume (gallons/liters): _____
 Pump Intake Depth (feet): 215' Ferrous Iron (mg/L): 0.15 mg/L

Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME 00 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/ REMARKS
09:25	0								PURGE START
09:30	0.10	16.2	4.10	4.95	264.4	86.0	125	3.95	Plummy
09:35	0.25	16.2	4.12	4.92	244.6	85.8	7.0	3.95	clear
09:40	0.35	16.2	4.13	4.89	245.1	85.8	3.81	3.95	clear
09:45	0.45	16.3	4.05	4.85	244.6	85.8	3.13	3.95	clear
09:50	0.55	16.4	4.06	4.84	246.7	86.1	2.87	3.95	clear
09:55	0.65	16.5	4.06	4.83	247.6	87.2	2.73	3.95	clear
10:00	0.75	16.4	4.06	4.84	248.1	86.7	1.83	3.95	

Measurement and Sampling Equipment

Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	4/20/22
Turbidity	HF Scientific	Micro TPW 20000	4/20/22
Peristaltic Pump	Geotech	Geopump	N/A

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/AIK	500 ml HDPE / none	EB-01-042022-10.30
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	EB-01-04
			BUP-T collected

Groundwater Sampling Record

WELL No. MW-17 PROJECT # 02.20160378.00 LOCATION: Blackville, SC DATE 4/19/22
 SAMPLE No. PROJECT NAME: Lennox, Blackville, SC FIELD PERSONNEL/COMPANY: J. Messier
 SAMPLE TIME: 09:05 SITE: FIELD CONDITIONS/WEATHER 46° Sunny

Well Condition Inspection (circle one)
 cover: locked not locked
 number: legible not legible
 outer casing: good fair poor
 inner casing: good fair poor
 well photographed: yes no

Equipment Cleaning Procedures
 - potable water and phosphate-free soap
 - potable water rinse
 - water rinse: distilled deionized
 - solvent rinse: acetone hexane
 - dry

Casing Diameter: (circle one) 2" 4" 6" Other: _____
 Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$
 Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47
 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56

Depth to Water (feet): 8.91
 Depth of Well (feet): -21.9 33.45
 Water Column (feet): 24.54 4.0
 Casing Volume (gallons/liters): 4.0
 Calculated Purge Volume (gallons/liters): 17
 Actual Purge Volume (gallons/liters): 0.15
 Pump Intake Depth (feet): 25
 Measuring Point Elevation (feet): _____
 Groundwater Surface Elevation: _____
 LNAPL present: _____ thickness: _____
 DNAPL present: _____ thickness: _____
 Remarks: _____
 Ferrous Iron (mg/L): 0.42 mg/L

Well Evacuation
 Water level recovery is: very slow slow moderate fast
 Bailed dry: yes no

TIME 00 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/ REMARKS
09:25	0								PURGE START
09:30	0.15	15.9	4.63	2.99	322.4	52.0	6.46	9.02	clear
09:35	0.35	15.9	4.59	2.92	321.2	29.2514	20.7	9.02	clear
09:40	0.35	16.0	4.51	2.90	321.2	50.4	28.6	9.02	clear
09:45	0.45	16.0	4.57	2.88	346.1	49.6	18.7	9.01	clear
09:50	0.55	16.0	4.56	2.89	353.1	48.6	17.5	9.01	clear
09:55	0.65	16.0	4.56	2.79	333.6	48.4	16.9	9.02	clear
09:00	0.75	15.9	4.56	2.86	353.1	48.2	9.8	9.02	clear

Measurement and Sampling Equipment

Type	Manufacturer	Model #	Calibration Date
Water Quality	YSI	556	4/19/22
Turbidity	HF Scientific	Micro TPW 20000	21021
Peristaltic Pump	Geotech	Geopump	21013

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Aik	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	

-BUP-1 collected *JM*

Groundwater Sampling Record

WELL No. MW-17 PROJECT # 02.20160378.00 LOCATION: Blackville, SC DATE 9/20/22
 SAMPLE No. PROJECT NAME: Lennox, Blackville, SC FIELD PERSONNEL/COMPANY: Joe Booth
 SAMPLE TIME: 1345 SITE: FIELD CONDITIONS/WEATHER 65° Sunny

Well Condition Inspection (circle one) Equipment Cleaning Procedures
 cover: locked not locked - potable water and phosphate-free soap
 number: legible not legible - potable water rinse
 outer casing: good fair poor - water rinse: distilled deionized
 inner casing: good fair poor - solvent rinse: acetone hexane
 well photographed: yes no - air dry

Casing Diameter: (circle one) 2" 4" 6" Other: _____
 Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$
 Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47
 Casing Volume (liters/ft) for: 2" = 0.618; 4" = 2.47; 6" = 5.56

Depth to Water (feet): 5.35 Measuring Point Elevation (feet): _____
 Depth of Well (feet): 27.80 Groundwater Surface Elevation: _____
 Water Column (feet): 22.44 LNAPL present: _____ thickness: _____
 Casing Volume (gallons/liters): 3.46 DNAPL present: _____ thickness: _____
 Calculated Purge Volume (gallons/liters): _____
 Actual Purge Volume (gallons/liters): _____
 Pump Intake Depth (feet): 23' Ferrous Iron (mg/L): 0.06 mg/L

Well Evacuation
 Water level recovery is: very slow slow moderate fast Bailed dry: yes no

TIME 00 hrs	CUMULATIVE VOLUME (gal)	TEMPERATURE (°C)	pH	DISSOLVED OXYGEN (mg/L)	ORP (mV)	CONDUCTIVITY (µs/cm)	TURBIDITY (NTU)	Depth to Water (Feet)	ODOR/COLOR/ REMARKS
1316	0								PURGE START
1320	0.1	19.4	5.66	3.69	62.4	125.1	22.9	5.43	None
1325	0.2	19.6	5.48	3.32	58.0	116.9	17.2	5.43	"
1330	0.3	19.7	5.49	3.26	56.7	117.5	17.1	5.43	"
1335	0.4	19.7	5.46	3.17	56.7	116.3	9.4	5.43	"
1340	0.5	19.7	5.46	3.17	56.8	116.1	4.4	5.43	"
Sampled @ 1345									

Measurement and Sampling Equipment
 Type Manufacturer Model # Calibration Date
 Water Quality YSI 556
 Turbidity HF Scientific Micro TPW 20000
 Peristaltic Pump Geotech Geopump

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
3	VOCs	40 ml glass / HCL	
3	1,4 - Dioxane	40 ml glass / HCL	
2	Diss. Gasses	40 ml glass / HCL	
1	TOC	250 ml HDPE / H2SO4	
1	NO3/SO4/Cl/Alk	500 ml HDPE / none	
3	Sulfide	250 ml HDPE / ZnAcetate + NaOH	
DUP-01 Collected			

Appendix D

Groundwater Elevations Summary

APPENDIX D: GROUNDWATER ELEVATIONS SUMMARY

Well Location	May-00	Apr-01	Jun-01	Jul-01	Mar-02	Jun-02	Dec-02	Jan-03	Mar-03	Jun-03	Aug-03	Feb-04	Jun-04
MW-1	273.81	275.70	na	na	274.80	273.04	274.85	274.97	276.00	276.34	275.87	276.20	274.13
MW-2	272.05	na	na	273.05	273.43	270.68	273.56	273.24	274.02	274.02	274.03	274.03	273.11
MW-3	273.66	na	na	274.27	273.85	272.30	273.86	273.98	274.96	275.87	275.45	275.47	274.04
MW-4	269.20	na	na	272.81	273.32	269.13	273.71	273.40	274.68	275.59	273.69	275.96	270.31
MW-5	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-6/MW-6R	na	275.80	na	275.33	274.69	273.38	277.03	na	na	na	na	na	na
MW-7	na	275.98	275.03	na	275.05	273.09	274.77	275.25	276.02	276.43	276.07	276.33	274.55
MW-8	na	276.20	275.78	na	274.64	273.17	275.27	275.64	276.18	276.53	276.03	276.78	274.51
MW-9	na	na	273.95	na	273.72	271.64	274.56	273.98	275.08	275.25	274.78	275.22	272.86
MW-10	na	na	na	272.06	272.54	272.03	272.66	272.58	272.89	273.17	272.93	273.25	272.40
MW-11	na	na	na	274.41	275.86	275.66	275.84	275.12	276.03	276.09	275.87	276.18	275.87
MW-12	na	na	na	267.80	269.87	269.89	269.98	269.93	270.03	270.29	270.37	270.43	270.17
MW-13	na	na	na	na	na	na	272.50	272.47	272.59	272.80	272.83	272.92	272.68
MW-14	na	na	na	na	na	na	272.68	272.61	272.97	273.32	272.97	273.50	272.46
MW-15	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-16	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-17	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

na - not available
nm - not measured

APPENDIX D: GROUNDWATER ELEVATIONS SUMMARY

Well Location	Oct-04	Feb-05	Sep-06	Mar-07	Sep-07	Dec-07	Jan-08	Mar-08	Sep-08	Apr-09	Sep-09	Mar-10	Oct-10
MW-1	273.84	275.59	274.28	275.22	274.27	275.24	275.65	275.98	273.55	273.68	272.76	276.00	274.94
MW-2	273.86	274.03	271.64	na	na	274.12	274.38	na	273.27	274.49	273.63	274.63	274.02
MW-3	274.55	274.58	274.10	274.66	273.89	273.94	274.46	275.05	272.05	275.32	273.27	275.44	274.34
MW-4	272.75	270.90	271.97	274.72	272.62	274.22	274.35	274.70	271.14	274.27	270.64	274.30	273.19
MW-5	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-6/MW-6R	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-7	274.98	274.91	274.28	274.13	275.67	na	na	276.26	274.70	276.14	272.72	275.60	275.06
MW-8	275.33	276.46	274.48	276.05	274.82	na	na	276.40	273.79	276.70	272.68	277.02	275.44
MW-9	273.77	274.64	272.96	274.18	272.87	na	na	275.08	272.06	274.81	271.74	274.97	273.62
MW-10	272.95	273.20	272.98	273.53	273.50	na	na	273.70	272.69	273.59	273.38	273.59	273.45
MW-11	275.83	275.97	275.48	275.83	275.38	na	na	274.32	na	275.44	274.75	275.30	275.14
MW-12	270.42	270.61	270.67	na	na	na	na	na	na	na	na	na	na
MW-13	272.98	273.08	na	na	na	na	na	na	na	na	na	na	na
MW-14	273.02	273.33	272.97	273.57	272.99	na	na	273.86	272.83	273.64	272.31	273.68	273.43
MW-15	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-16	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-17	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

na - not available
nm - not measured

APPENDIX D: GROUNDWATER ELEVATIONS SUMMARY

Well Location	Sep-12	Jan-17	Oct-17	Mar-18	Oct-18	Mar-19	Oct-19	Apr-20	Jun-21	Apr-22
MW-1	273.29	276.29	274.60	276.12	276.38	275.89	272.93	276.34	275.11	276.45
MW-2	272.85	nm	272.98	274.90	274.89	274.59	271.02	275.18	274.00	275.34
MW-3	272.95	275.76	274.00	275.23	275.53	275.56	273.71	276.11	274.49	275.69
MW-4	270.80	274.83	270.51	273.56	275.24	273.11	267.87	273.54	272.09	274.52
MW-5	na	nm	272.81	274.46	274.53	273.24	271.33	274.43	273.58	274.67
MW-6/MW-6R	273.52	276.37	274.95	276.30	276.89	276.36	273.93	276.81	275.68	nm
MW-7	272.63	276.71	274.92	276.14	276.57	275.74	272.72	276.51	275.41	276.70
MW-8	273.75	nm	274.58	276.51	276.37	276.45	275.90	276.63	276.13	nm
MW-9	na	nm	nm	nm	nm	nm	nm	nm	nm	nm
MW-10	271.50	273.06	271.88	274.24	274.29	274.13	269.95	274.33	273.51	269.85
MW-11	271.54	273.40	272.30	274.14	274.15	273.99	271.15	274.32	273.54	274.82
MW-12	na	nm	nm	nm	nm	nm	nm	nm	nm	nm
MW-13	na	nm	nm	nm	nm	nm	nm	nm	nm	nm
MW-14	271.62	273.57	272.27	274.29	274.35	274.22	269.73	274.59	273.61	274.86
MW-15	na	276.41	275.49	275.82	276.73	276.70	274.35	277.28	275.97	276.85
MW-16	na	nm	273.67	274.08	274.55	274.47	272.80	274.90	273.48	274.79
MW-17	na	na	na	na	na	na	274.04	276.79	275.52	276.37

Notes:

na - not available
nm - not measured

Appendix E

**Data Validation Summary and
Laboratory Analytical Results – April 2022**



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MEMORANDUM

DATE: June 6, 2022
TO: Carol Northern
FROM: Mary Ann Brookshire
SUBJECT: Quality Assurance Review
PROJECT: Lennox International
SAMPLING DATES: April 19 – 21, 2022
PROJECT NUMBER: EC02.20160378.21

1.0 Introduction

This quality assurance review presents the cursory validation of the sample analyses listed in Table 1. The analyses were performed by Pace Analytical Services, LLC., formally Shealy Environmental Services, Inc., located in West Columbia, South Carolina.

The criteria used to qualify data are from the *Contract Laboratory Program National Functional Guidelines for Inorganic and Organic Data Review* (USEPA 2010 and 2008), the analytical methods, or the professional judgment of the validation chemist. The following laboratory deliverables were reviewed during the validation process:

- Chain-of-custody (COC) documentation to assess holding times and verify report completeness
- Laboratory quality control (QC) sample results, including method blanks, surrogate spikes, laboratory control samples (LCS), matrix spike/matrix spike duplicates (MS/MSD), and laboratory duplicates
- Analytical results to verify reporting limits
- Field QC samples to assess field blank contamination and field duplicate precision

The qualified data are summarized in Section 6 of this memorandum. Data qualifier flags have been added to the attached sample results and database files.

Table 1—Sample Data Reviewed

Sample ID	Laboratory ID	VOA ^a	Dissolved Gases ^b	General Chem ^c
MW-17	XD19085-001	X	X	X
MW-15	XD19085-002	X	X	X
MW-2D	XD19085-003	X	X	X
MW-2	XD19085-004	X	X	X
MW-1D	XD19085-005	X	X	X
MW-1	XD19085-006	X	X	X
TB-01	XD19085-007	X		
DP-15-15	XD19085-008	X		
DP-15-22	XD19085-009	X		
Dup-02-GW-041922	XD19085-010	X		
MW-7	XD20108-001	X	X	X
MW-16	XD20108-002	X	X	X
EB-01-042022	XD20108-003	X	X	X
MW-11	XD20108-004	X	X	X
MW-3D	XD20108-005	X	X	X
MW-3	XD20108-006	X	X	X
MW-10	XD20108-007	X	X	X
MW-14	XD20108-008	X	X	X
MW-4	XD20108-009	X	X	X
MW-4D	XD20108-010	X	X	X
MW-18	XD20108-011	X	X	X
Dup-01	XD20108-012	X	X	X
Trip Blank	XD20108-013	X		
MW-5	XD21014-001	X	X	X
TCLP-VOC	XD21014-002	X		
TCLP-VOC	XD21014-003	X		
TB-03	XD21014-004	X		

^a Volatile Organic Compounds by Method 8260D and/or 8260D SIM (USEPA 1996)

^b Dissolved Gases by Method RSK-175 (USEPA 1994)

^c Alkalinity by Method SM 2320B; chloride, nitrate, and sulfate by Method 9056A; sulfide by method SM4500-S2 F; and TOC by method 9060A (APHA 1998 and USEPA 1996)

2.0 Data Validation Findings

2.1 Custody, Preservation, and Completeness

Sample custody was maintained as required from sample collection to receipt at the laboratory. The samples were received intact and were properly preserved. The reports are complete and contain results for the samples and tests requested on the COC forms with the following exceptions.

- Samples TB-03 and Trip Blank were received at the laboratory but not listed on the COC form. The samples were added for laboratory testing as required.

2.2 Volatile Organic Analyses by Methods 8260B and 8260B SIM

2.2.1 Holding Times

The samples were analyzed within the required holding time of 14 days from collection for preserved water samples with the following exceptions:

- The dilutions for samples MW-18 and Dup-01 were analyzed 1 day past the 14-day holding time. The analytes reported from the dilution (tetrachloroethene and trichloroethene) are qualified as estimated (J) based on the holding time.

2.2.2 Blank Analyses

2.2.2.1 Method Blanks

Method blanks were analyzed at the required frequency. Target analytes were not detected above the detection limits in the method blank samples.

2.2.2.2 Field Blanks

Three trip blanks and one equipment blank sample are associated with the samples. Target analytes were not detected above the detection limits in the trip blank or equipment blank samples with the exceptions of methylene chloride in sample TB-03 and acetone in sample Trip Blank.

Methylene chloride was detected in sample TB-03 at an estimated concentration of 1.0 ug/L. Acetone was also detected in sample Trip Blank at a concentration of 11 ug/L. Functional Guidelines prescribes two qualification schemes for blank contamination at concentrations below the LOQ; (1) associated sample concentrations less than the LOQ are qualified as undetected (U) at the reporting limit, (2) associated sample concentrations greater than the LOQ are qualified based on professional judgment. The methylene chloride data were not qualified because methylene chloride was not detected in the associated samples. The acetone results for samples MW-7, MW-18, and Dup-01 were qualified as undetected (U) at the LOQ based on the trip blank result.

2.2.3 Surrogate Analyses

Surrogate compounds were added to samples, blanks, and QC samples as required. The recovery values are within the laboratory QC limits.

2.2.4 Matrix Spike/Matrix Spike Duplicate Analyses

MS/MSD analyses were reported at the project frequency of one per 20 field samples. The recovery and relative percent difference (RPD) values are within the laboratory QC limits with the following exceptions:

- The recovery values for bromomethane and vinyl chloride in MW-3 MS are 131 and 139 percent, respectively, which exceed the laboratory QC limits of 70 to 130 percent. The recovery values for dichlorodifluoromethane and vinyl chloride in sample MW-3 MSD are 142 and 145 percent, respectively, which exceed the laboratory QC limit of 70 to 130 percent. Data qualification is not required for bromomethane or dichlorodifluoromethane as the bias is high and the associated

sample results are non-detect. The laboratory “S” qualifier was removed from the associated result. The vinyl chloride result for MW-3 is qualified as estimated (J) and may be biased high.

- The recovery value for 1,4-dioxane in sample MW-3 MSD is 64 percent, which is below the laboratory QC limits of 70 to 130 percent. Data qualification is not required as the associated MS recovery is within the laboratory QC limit and a trend is not established. The laboratory “S” qualifier was removed from the associated result.

2.2.5 Laboratory Control Sample Analyses

LCS or LCS/LCSD were analyzed at the required frequency of one per batch. The recovery and RPD values of target analytes are within the laboratory QC limits with the following exception.

- The recovery value for 2-butanone is 157 percent in the LCS run with batch 41267 (SDG XD21014), which exceeds the laboratory QC limit of 60 to 140 percent. Data qualification is not required as the bias is high and the associated sample results are non-detect. The laboratory “L” qualifier was removed from the associated sample result.

2.2.6 Laboratory Reporting Limits

The laboratory limits of quantitation (LOQ) are consistent with method reporting limits.

2.2.7 Field Duplicates

Two field duplicate pairs (MW-18/Dup-01 and DP-15-22/DUP-02-GW-041922) were collected. The RPD values are within the QC guideline of less than 30 for groundwater samples. Detected analytes from the field duplicate samples are provided in the table below.

Sample ID	Duplicate ID	Analyte	Units	Sample Value	Duplicate Value	RPD
MW-18	Dup-01	Acetone	µg/L	12 J	11 J	NC
		Benzene	µg/L	1.1	1.1	0
		Chloroform	µg/L	0.48 J	0.46 J	NC
		1,1-Dichloroethane	µg/L	0.49 J	0.51 J	NC
		1,1-Dichloroethene	µg/L	13	13	0
		cis-1,2-Dichloroethene	µg/L	9.2	9.4	2
		Tetrachloroethene	µg/L	390	360	8
		Toluene	µg/L	1.4	1.4	0
		1,1,1-Trichloroethane	µg/L	0.89 J	0.89 J	NC
		1,1,2-Trichloroethane	µg/L	17	17	0
		Trichloroethene	µg/L	550	480	14
		Vinyl Chloride	µg/L	0.81 J	0.74 J	NC
		Xylenes	µg/L	8.8	8.8	0

Sample ID	Duplicate ID	Analyte	Units	Sample Value	Duplicate Value	RPD
DP-15-22	DUP-02-GW-041922	1,1-Dichloroethane	µg/L	24	25	4.1
		1,2-Dichloroethane	µg/L	6.7	7.0	4.4
		1,1-Dichloroethene	µg/L	22	23	4.4
		cis-1,2-Dichloroethene	µg/L	430	460	6.7
		trans-1,2-Dichloroethene	µg/L	13	14	7.4
		Methylene Chloride	µg/L	7.4	7.6	2.7
		Tetrachloroethene	µg/L	73	79	7.9
		1,1,2-Trichloroethane	µg/L	31	32	3.2
		Trichloroethene	µg/L	120	120	0.0
		Vinyl Chloride	µg/L	14	14	0.0
		1,4-Dioxane	µg/L	52	49	5.9

NC - not calculated. One or both results are below the limit of quantitation

2.2.8 Overall Assessment of Data Usability

The usability of the data is based on the EPA guidance documents noted previously. Upon consideration of the information presented here; the data are acceptable with qualification.

2.3 Dissolved Gases

2.3.1 Holding Times

The samples were analyzed within the required holding time of 14 days from collection for preserved water samples.

2.3.2 Blank Analyses

2.3.2.1 Method Blanks

Method blanks were analyzed at the required frequency of one per batch. Dissolved gases were not detected above the detection limits in the method blanks.

2.3.2.2 Trip Blanks

The trip blank samples were not analyzed for dissolved gases.

2.3.2.3 Equipment Blanks

One equipment blank sample was collected. The equipment blank was analyzed at the required frequency. Dissolved gases were not detected above the detection limits in the equipment blank sample.

2.3.3 Surrogate Analyses

Surrogate compounds are not required for dissolved gas analyses.

2.3.4 Matrix Spike/Matrix Spike Duplicate Analyses

Matrix spike and matrix spike duplicate analyses were performed at the required frequency. The recovery and RPD values were within laboratory QC limits.

2.3.5 Laboratory Control Sample Analyses

LCS/LCSDs were analyzed as required. The recovery and RPD values of target analytes are within the laboratory QC limits.

2.3.6 Laboratory Reporting Limits

The laboratory limits of quantitation (LOQ) are consistent with method reporting limits.

2.3.7 Field Duplicates

One field duplicate pair (MW-18/Dup-01) was collected. The RPD values are within the QC guideline of less than 30 for groundwater samples and less than 50 for soil as shown in the table below.

Sample ID	Duplicate ID	Analyte	Units	Sample Value	Duplicate Value	RPD
MW-18	Dup-01	Ethane	µg/L	<2.5	2.6 J	NC
		Ethene	µg/L	8.3 J	9.6 J	NC
		Methane	µg/L	44	45	2.2

NC - not calculated. One or both results are below the limit of quantitation

2.3.8 Overall Assessment of Data Usability

The usability of the data is based on the EPA guidance documents noted previously. Upon consideration of the information presented here; the data are acceptable without qualification.

2.4 General Chemistry Analyses

The field samples were analyzed for alkalinity, chloride, nitrate, sulfate, sulfide, and total organic carbon (TOC).

2.4.1 Holding Times

The samples were analyzed within the method-required holding times with the following exceptions. The nitrate results for samples MW-17, MW-15, MW-2D, MW-1D, MW-1 were analyzed past the holding time. The nitrate results for these samples were qualified as estimated (J).

2.4.2 Blank Analyses

2.4.2.1 Method Blanks

Method blanks were analyzed at the required frequency. Target analytes were not detected above the detection limits in the method blank samples.

2.4.2.2 Equipment Blanks

An equipment blank was analyzed at the required frequency. Target analytes were not detected above the detection limits in the equipment blank.

2.4.3 Matrix Spike/Matrix Spike Duplicate Analyses

MS/MSD analyses were reported at the project frequency of one pair per 20 field samples for chloride, nitrate, sulfate, sulfide, and TOC. Duplicate analyses were reported for alkalinity (matrix spikes are not required for these methods). The recovery and RPD values are within the laboratory QC limits with the following exceptions:

- The MS and MSD recovery values for sulfide from a batch sample are 65 and 67 percent, which are below the laboratory QC limit of 70 to 130 percent. Data qualification is not required as the spiked sample was not collected from the Lennox site.
- The MS and MSD recovery values for TOC in samples MW-18 MS and MSD are 62 and 60 percent respectively, which are below the laboratory QC limits of 70 to 130 percent. The associated sample result for MW-18 is qualified as estimated and may be biased low due to matrix interference.

2.4.4 Laboratory Control Sample Analyses

LCSs or LCS/LCSDs were analyzed at the required frequency of one per batch. The recovery and RPD values are within the laboratory QC limits.

2.4.5 Laboratory Reporting Limits

The laboratory limits of quantitation (LOQ) are consistent with method reporting limits.

2.4.6 Field Duplicates

One field duplicate pair (MW-18/Dup-01) was collected. The RPD values are within the QC guideline of 30 for groundwater samples as shown in the table below.

Sample ID	Duplicate ID	Analyte	Units	Sample Value	Duplicate Value	RPD
MW-18	DUP-01	Alkalinity	mg/L	38	37	2.7
		Chloride	mg/L	7.5	7.5	0
		Nitrate	mg/L	1.5	1.5	0
		Sulfate	mg/L	2.3	2.1	9.1
		TOC	mg/L	0.71 J	0.86 J	NC

NC - not calculated. One or both results are below the limit of quantitation

2.4.7 Overall Assessment of Data Usability

The usability of the data is based on the EPA guidance documents noted previously. Upon consideration of the information presented here; the data are acceptable with qualification.

3.0 Assessment of Data Quality Indicators

3.1 Precision

Precision is a measure of the mutual agreement among individual measurements of the same property, under prescribed similar conditions. Precision is determined through analysis of MS/MSD, sample duplicates, and field duplicate samples. Duplicate samples are evaluated for precision in terms of relative percent difference. Relative percent difference is defined as the difference between the duplicate results divided by the mean and expressed as a percent.

The precision of the VOC, dissolved gases, and general chemistry data is very good. The RPD values for the site-specific MS/MSD, LCS/LCSD, and field duplicates are within the laboratory QC limits.

3.2 Accuracy

Accuracy is the degree of agreement between a measurement and the accepted reference or true value. The level of accuracy is determined by examination of surrogates, MS/MSDs, LCSs, method blanks, and field blanks. The surrogate, matrix spike, and LCS recovery values were compared to the laboratory QC limits. Method and field blanks are analyzed to identify compounds that could be introduced during the sampling, extraction, or analysis phases (i.e., laboratory contaminants) and lead to inaccurate results.

The accuracy of the VOC, dissolved gases, and general chemistry data is very good. The LCS, site-specific MS/MSDs, and surrogate recoveries are within the laboratory QC limits with a few exceptions. The LCS recovery for one VOC exceeded the laboratory QC limit; however, the associated sample results were non-detect and data qualification was not required. MS and MSD recoveries were above QC limits for 4 VOCs. Data qualification was not required for two of the VOCs because the bias was high and the associated sample results were non-detect. Data qualification was also not required for a third VOC as the MS exceeded the laboratory QC limit but the MSD was within the QC limit, so a trend was not identified. One VOC was qualified as estimated based on the MS/MSD recoveries and may be biased high. In addition, the MS/MSD recoveries for TOC were below the laboratory QC limits. The associated sample result was qualified as estimated (J) and may be biased low.

The method blanks, equipment blanks, and trip blank are free of contamination with the exception of acetone and methylene chloride in trip blank samples. Associated data were qualified in accordance with Functional Guidelines criteria. The use of Functional Guidelines qualification reduces the impact of blank contamination to the data by reducing the probability of reporting false positive or biased high data.

3.3 Representativeness

Representativeness is the extent to which the data reflect the actual contaminant levels present in the samples. Representativeness is assessed through method and field blanks, and proper preservation and handling. Method and field blank analyses allow for the detection of artifacts

that may be reported as false positive results. Proper sample preservation and handling are necessary so that sample results reflect the actual sample concentrations.

The data are assumed to be representative because the samples were properly preserved and handled with the exceptions of two VOC samples with dilutions analyzed past the holding time and 5 nitrate samples analyzed past the holding time. Results were qualified as estimated. Target analytes were not detected in the method blanks, equipment blanks or trip blank with the exceptions of two VOCs detected in trip blank samples. The use of Functional Guidelines qualification reduces the impact of method blank contamination to the data by reducing the probability of reporting false positive or biased high data.

3.4 Comparability

Comparability is a measure of how easily the data set can be compared and combined with other data sets. The data are assumed to be comparable since standard EPA methods were used to analyze the samples, the method QC criteria were generally met, and routine detection limits were reported.

3.5 Completeness

Completeness is expressed as the ratio of valid results to the amount of data expected to be obtained under normal conditions. Completeness is determined by assessing the number of samples for which valid results were obtained versus the number of samples that were submitted to the laboratory for analysis. Valid results are results that are determined to be usable during the data validation review process.

The completeness of this data set is 100 percent.

4.0 Data Qualifier Definitions

4.1 Inorganic Data Qualifiers

The following data validation qualifiers were used in the review of this data set. These qualifiers are from the *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*.

- U The material was analyzed for but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.
- J The associated value is an estimated quantity.
- UJ The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
- R The data are unusable. (Note: Analyte may or may not be present)

4.2 Organic Data Qualifiers

The following data validation qualifiers were used in the review of this data set. These qualifiers are from the *Contract Laboratory Program National Functional Guidelines for Organic Data Review*.

- U The analyte was analyzed for but not detected above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a “tentative identification”.
- NJ The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated numerical value represents its approximate concentration.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the samples and meet quality control criteria. The presence or absence of the analyte cannot be verified.

5.0 References

USEPA. 1996. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846) Third Edition, Updates I, II, IIA, IIB, and III. United States Environmental Protection Agency. Office of Solid Waste. December 1996.

USEPA. 1999a. Methods and Guidance for Analysis of Water, Version 2.0. United States Environmental Protection Agency Office of Science and Technology. EPA 821-C-99-004. CD ROM. June 1999.

USEPA. 2008. Contract Laboratory Program National Functional Guidelines for Organic Data Review. U.S. Environmental Protection Agency Office of Emergency and Remedial Response. EPA540/R-99/008. June 2008.

USEPA. 2010. Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. United States Environmental Protection Agency. Office of Solid Waste and Emergency Response. January 2010.

6.0 Summary of Data Qualification

The following data qualifiers were applied based on the quality assurance review of this data set.

Sample ID	Analyte	Qualifier	Reason for Qualification
MW-18	Tetrachloroethene Trichloroethene	J	Holding time exceeded
Dup-01	Tetrachloroethene Trichloroethene	J	Holding time exceeded

Sample ID	Analyte	Qualifier	Reason for Qualification
MW-7	Acetone	U at LOQ	Trip blank detection < LOQ
MW-18	Acetone	U at LOQ	Trip blank detection < LOQ
Dup-01	Acetone	U at LOQ	Trip blank detection < LOQ
MW-3	Vinyl chloride	J	MS/MSD recovery > QC limit
MW-18	TOC	J	MS/MSD recovery < QC limit
MW-17	Nitrate	J	Holding time exceedance
MW-15	Nitrate	J	Holding time exceedance
MW-2D	Nitrate	J	Holding time exceedance
MW-1D	Nitrate	UJ	Holding time exceedance
MW-1	Nitrate	UJ	Holding time exceedance

Description: MW-17

Matrix: Aqueous

Date Sampled: 04/19/2022 0905

Date Received: 04/19/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity @) SM 2320B-2011	1	04/20/2022 2339	TAD		38960
1		(Chloride) 9056A	1	04/21/2022 0408	CAW		39114
2		(Nitrate - N) 9056A	5	04/22/2022 0539	CAW		39106
1		(Sulfate) 9056A	1	04/21/2022 0408	CAW		39113
1		(Sulfide) SM 4500-S2 F-2011	1	04/21/2022 1541	SJL		38889
2		(TOC) 9060A	1	05/03/2022 2116	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO ₃ /L	1
Chloride		9056A	7.4		1.0	0.25	mg/L	1
Nitrate - N		9056A	1.7	H J	0.10	0.025	mg/L	2
Sulfate		9056A	12		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	ND		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/26/2022 1426	BWS		39396

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	0.81	J	1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 0.293 - 0.328

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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6/6/22

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/26/2022 1426	BWS		39396

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		103	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D (SIM)	1	04/21/2022 1759	JWO		38936

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Client: EarthCon Consultants, Inc. Description: MW-17 Date Sampled: 04/19/2022 0905 Date Received: 04/19/2022	Laboratory ID: XD19085-001 Matrix: Aqueous
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Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		110	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/20/2022 1443	JM1		38745

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	ND		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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6/6/22

Description: MW-15

Matrix: Aqueous

Date Sampled: 04/19/2022 1030

Date Received: 04/19/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity @) SM 2320B-2011	1	04/20/2022 2347	TAD		38960
1		(Chloride) 9056A	1	04/21/2022 0427	CAW		39114
2		(Nitrate - N) 9056A	5	04/22/2022 0558	CAW		39106
1		(Sulfate) 9056A	1	04/21/2022 0427	CAW		39113
1		(Sulfide) SM 4500-S2 F-2011	1	04/21/2022 1541	SJL		38889
2		(TOC) 9060A	1	05/03/2022 2140	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	3.3		1.0	0.25	mg/L	1
Nitrate - N		9056A	0.042	HJ J	0.10	0.025	mg/L	2
Sulfate		9056A	9.5		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	0.54	J	1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/26/2022 1451	BWS		39396

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 0.508 - 0.551

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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MAB
6/6/22

Description: MW-15

Matrix: Aqueous

Date Sampled: 04/19/2022 1030

Date Received: 04/19/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	1	04/26/2022 1451	BWS		39396		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		100	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D (SIM)	1	04/21/2022 1824	JWO		38936		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1	

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

MAB
6/6/22

Client: EarthCon Consultants, Inc.	Laboratory ID: XD19085-002
Description: MW-15	Matrix: Aqueous
Date Sampled: 04/19/2022 1030	
Date Received: 04/19/2022	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		110	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/20/2022 1459	JM1		38745

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	8.0	J	10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
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MAB
 6/6/22

Description: MW-2D

Matrix: Aqueous

Date Sampled: 04/19/2022 1130

Date Received: 04/19/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity @) SM 2320B-2011	1	04/20/2022 2353	TAD		38960
1		(Chloride) 9056A	1	04/21/2022 0446	CAW		39114
2		(Nitrate - N) 9056A	5	04/22/2022 0617	CAW		39106
1		(Sulfate) 9056A	1	04/21/2022 0446	CAW		39113
1		(Sulfide) SM 4500-S2 F-2011	1	04/22/2022 1349	SJL		39182
2		(TOC) 9060A	1	05/03/2022 2203	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO ₃ /L	1
Chloride		9056A	2.9		1.0	0.25	mg/L	1
Nitrate - N		9056A	0.16	H ³	0.10	0.025	mg/L	2
Sulfate		9056A	0.92	J	1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	ND		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/26/2022 1517	BWS		39396

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	10	J	20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 0.229 - 0.257

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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MAB
6/6/22

Description: MW-2D

Matrix: Aqueous

Date Sampled: 04/19/2022 1130

Date Received: 04/19/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	1	04/26/2022 1517	BWS		39396		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		115	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D (SIM)	1	04/21/2022 2346	SDC		39016		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1	

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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MAB
 6/6/22

Client: EarthCon Consultants, Inc.	Laboratory ID: XD19085-003
Description: MW-2D	Matrix: Aqueous
Date Sampled: 04/19/2022 1130	
Date Received: 04/19/2022	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		114	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/20/2022 1515	JM1		38745

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	ND		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity @) SM 2320B-2011	1	04/21/2022 0001	TAD		38960
1		(Chloride) 9056A	1	04/21/2022 0505	CAW		39114
1		(Nitrate - N) 9056A	1	04/21/2022 0505	CAW		39108
1		(Sulfate) 9056A	1	04/21/2022 0505	CAW		39113
1		(Sulfide) SM 4500-S2 F-2011	1	04/22/2022 1349	SJL		39182
2		(TOC) 9060A	1	05/03/2022 2314	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	6.1		1.0	0.25	mg/L	1
Nitrate - N		9056A	1.2		0.020	0.0050	mg/L	1
Sulfate		9056A	3.7		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	ND		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/26/2022 1542	BWS		39396

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 0.251 - 0.291

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	1	04/26/2022 1542	BWS		39396		

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		99	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D (SIM)	1	04/22/2022 0010	SDC		39016		

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis

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Client: EarthCon Consultants, Inc.	Laboratory ID: XD19085-004
Description: MW-2	Matrix: Aqueous
Date Sampled: 04/19/2022 1230	
Date Received: 04/19/2022	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/20/2022 1531	JM1		38745

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	ND		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Description: MW-1D

Matrix: Aqueous

Date Sampled: 04/19/2022 1420

Date Received: 04/19/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity @) SM 2320B-2011	1	04/21/2022 0006	TAD		38960
1		(Chloride) 9056A	1	04/21/2022 0523	CAW		39114
4		(Nitrate - N) 9056A	5	04/25/2022 2144	YCB		39834
1		(Sulfate) 9056A	1	04/21/2022 0523	CAW		39113
1		(Sulfide) SM 4500-S2 F-2011	1	04/22/2022 1349	SJL		39182
2		(TOC) 9060A	1	05/03/2022 2338	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	1.8		1.0	0.25	mg/L	1
Nitrate - N		9056A	ND	H ^{UJ}	0.10	0.025	mg/L	4
Sulfate		9056A	0.39	J	1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND	S	1.0	1.0	mg/L	1
TOC		9060A	ND		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/26/2022 1607	BWS		39396

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 0.252 - 0.277

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/26/2022 1607	BWS		39396

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260D	1.1		1.0	0.40	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1
Tetrachloroethene	127-18-4	8260D	86		1.0	0.40	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1
Trichloroethene	79-01-6	8260D	14		1.0	0.40	ug/L	1
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		91	70-130
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		98	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D (SIM)	1	04/22/2022 0034	SDC		39016

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Client: EarthCon Consultants, Inc.	Laboratory ID: XD19085-005
Description: MW-1D	Matrix: Aqueous
Date Sampled: 04/19/2022 1420	
Date Received: 04/19/2022	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4	110	40-170	

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/20/2022 1547	JM1		38745

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	3.6	J	10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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Description: MW-1

Matrix: Aqueous

Date Sampled: 04/19/2022 1520

Date Received: 04/19/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity @) SM 2320B-2011	1	04/21/2022 0012	TAD		38960
1		(Chloride) 9056A	1	04/21/2022 0542	CAW		39114
2		(Nitrate - N) 9056A	5	04/22/2022 0751	CAW		39106
1		(Sulfate) 9056A	1	04/21/2022 0542	CAW		39113
1		(Sulfide) SM 4500-S2 F-2011	1	04/22/2022 1349	SJL		39182
2		(TOC) 9060A	1	05/04/2022 0001	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	16		1.0	0.25	mg/L	1
Nitrate - N		9056A	ND	HUT	0.10	0.025	mg/L	2
Sulfate		9056A	3.3		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	1.3		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	10	04/26/2022 1813	BWS		39396

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		200	50	ug/L	1
Benzene	71-43-2	8260D	ND		10	4.0	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		10	4.0	ug/L	1
Bromoform	75-25-2	8260D	ND		10	4.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		20	4.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		100	20	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		10	4.0	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		10	4.0	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		10	4.0	ug/L	1
Chloroethane	75-00-3	8260D	ND		20	4.0	ug/L	1
Chloroform	67-66-3	8260D	ND		10	4.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		10	5.0	ug/L	1
Cyclohexane	110-82-7	8260D	ND		10	4.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		10	4.0	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		10	4.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		10	4.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		10	4.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		10	4.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		10	4.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		20	6.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		10	4.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		10	4.0	ug/L	1

TOC Range: 1.271 - 1.311

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	10	04/26/2022 1813	BWS		39396

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,1-Dichloroethene	75-35-4	8260D	ND		10	4.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260D	1400		10	4.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260D	5.0	J	10	4.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260D	ND		10	4.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		10	4.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		10	4.0	ug/L	1
Ethylbenzene	100-41-4	8260D	100		10	4.0	ug/L	1
2-Hexanone	591-78-6	8260D	ND		100	20	ug/L	1
Isopropylbenzene	98-82-8	8260D	ND		10	4.0	ug/L	1
Methyl acetate	79-20-9	8260D	ND		10	4.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		10	4.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260D	ND		100	20	ug/L	1
Methylcyclohexane	108-87-2	8260D	ND		50	4.0	ug/L	1
Methylene chloride	75-09-2	8260D	7.2	J	10	4.0	ug/L	1
Styrene	100-42-5	8260D	ND		100	4.1	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		10	4.0	ug/L	1
Tetrachloroethene	127-18-4	8260D	ND		10	4.0	ug/L	1
Toluene	108-88-3	8260D	ND		10	4.0	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		10	4.2	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		10	4.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260D	ND		10	4.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260D	ND		10	4.0	ug/L	1
Trichloroethene	79-01-6	8260D	ND		10	4.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260D	ND		10	4.0	ug/L	1
Vinyl chloride	75-01-4	8260D	55		10	4.0	ug/L	1
Xylenes (total)	1330-20-7	8260D	570		10	4.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		102	70-130
1,2-Dichloroethane-d4		111	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D (SIM)	1	04/22/2022 0059	SDC		39016

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

MAB
6/6/22

Client: EarthCon Consultants, Inc.

Laboratory ID: XD19085-006

Description: MW-1

Matrix: Aqueous

Date Sampled: 04/19/2022 1520

Date Received: 04/19/2022

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		109	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/20/2022 1603	JM1		38745

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	13		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	470		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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MAB
 6/6/22

Description: TB-01

Matrix: Aqueous

Date Sampled: 04/19/2022

Date Received: 04/19/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	1	04/26/2022 1310	BWS		39396		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1	
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1	
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1	
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1	
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1	
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1	
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1	
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1	
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1	
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1	
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1	
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1	
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1	
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1	
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1	

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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MAB
6/6/22

Client: EarthCon Consultants, Inc.

Laboratory ID: XD19085-007

Description: TB-01

Matrix: Aqueous

Date Sampled: 04/19/2022

Date Received: 04/19/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/26/2022 1310	BWS		39396

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		103	70-130
1,2-Dichloroethane-d4		115	70-130
Toluene-d8		102	70-130

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	5	04/26/2022 1657	BWS		39396

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		100	25	ug/L	1
Benzene	71-43-2	8260D	ND		5.0	2.0	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		5.0	2.0	ug/L	1
Bromoform	75-25-2	8260D	ND		5.0	2.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		10	2.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		50	10	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		5.0	2.0	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		5.0	2.0	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		5.0	2.0	ug/L	1
Chloroethane	75-00-3	8260D	ND		10	2.0	ug/L	1
Chloroform	67-66-3	8260D	ND		5.0	2.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		5.0	2.5	ug/L	1
Cyclohexane	110-82-7	8260D	ND		5.0	2.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		5.0	2.0	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		5.0	2.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		5.0	2.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		5.0	2.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		5.0	2.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		5.0	2.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		10	3.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	22		5.0	2.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	6.4		5.0	2.0	ug/L	1
1,1-Dichloroethene	75-35-4	8260D	17		5.0	2.0	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260D	420		5.0	2.0	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260D	12		5.0	2.0	ug/L	1
1,2-Dichloropropane	78-87-5	8260D	ND		5.0	2.0	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		5.0	2.0	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		5.0	2.0	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		5.0	2.0	ug/L	1
2-Hexanone	591-78-6	8260D	ND		50	10	ug/L	1
Isopropylbenzene	98-82-8	8260D	ND		5.0	2.0	ug/L	1
Methyl acetate	79-20-9	8260D	ND		5.0	2.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		5.0	2.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260D	ND		50	10	ug/L	1
Methylcyclohexane	108-87-2	8260D	ND		25	2.0	ug/L	1
Methylene chloride	75-09-2	8260D	5.5		5.0	2.0	ug/L	1
Styrene	100-42-5	8260D	ND		5.0	2.1	ug/L	1
1,1,1,2-Tetrachloroethane	79-34-5	8260D	ND		5.0	2.0	ug/L	1
Tetrachloroethene	127-18-4	8260D	60		5.0	2.0	ug/L	1
Toluene	108-88-3	8260D	ND		5.0	2.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	5	04/26/2022 1657	BWS		39396

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		5.0	2.1	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		5.0	2.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260D	ND		5.0	2.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260D	30		5.0	2.0	ug/L	1
Trichloroethene	79-01-6	8260D	97		5.0	2.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260D	ND		5.0	2.0	ug/L	1
Vinyl chloride	75-01-4	8260D	11		5.0	2.0	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		5.0	2.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D (SIM)	1	04/22/2022 0123	SDC		39016

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,4-Dioxane	123-91-1	8260D (SIM)	51		3.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	40-170

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

MAB
 6/6/22

Description: DP-15-22

Matrix: Aqueous

Date Sampled: 04/19/2022 1529

Date Received: 04/19/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	5	04/26/2022 1722	BWS		39396		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
Acetone	67-64-1	8260D	ND		100	25	ug/L	1	
Benzene	71-43-2	8260D	ND		5.0	2.0	ug/L	1	
Bromodichloromethane	75-27-4	8260D	ND		5.0	2.0	ug/L	1	
Bromoform	75-25-2	8260D	ND		5.0	2.0	ug/L	1	
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		10	2.0	ug/L	1	
2-Butanone (MEK)	78-93-3	8260D	ND		50	10	ug/L	1	
Carbon disulfide	75-15-0	8260D	ND		5.0	2.0	ug/L	1	
Carbon tetrachloride	56-23-5	8260D	ND		5.0	2.0	ug/L	1	
Chlorobenzene	108-90-7	8260D	ND		5.0	2.0	ug/L	1	
Chloroethane	75-00-3	8260D	ND		10	2.0	ug/L	1	
Chloroform	67-66-3	8260D	ND		5.0	2.0	ug/L	1	
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		5.0	2.5	ug/L	1	
Cyclohexane	110-82-7	8260D	ND		5.0	2.0	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		5.0	2.0	ug/L	1	
Dibromochloromethane	124-48-1	8260D	ND		5.0	2.0	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		5.0	2.0	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260D	ND		5.0	2.0	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260D	ND		5.0	2.0	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260D	ND		5.0	2.0	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260D	ND		10	3.0	ug/L	1	
1,1-Dichloroethane	75-34-3	8260D	24		5.0	2.0	ug/L	1	
1,2-Dichloroethane	107-06-2	8260D	6.7		5.0	2.0	ug/L	1	
1,1-Dichloroethene	75-35-4	8260D	22		5.0	2.0	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	430		5.0	2.0	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	13		5.0	2.0	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		5.0	2.0	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		5.0	2.0	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		5.0	2.0	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		5.0	2.0	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		50	10	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		5.0	2.0	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		5.0	2.0	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		5.0	2.0	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		50	10	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		25	2.0	ug/L	1	
Methylene chloride	75-09-2	8260D	7.4		5.0	2.0	ug/L	1	
Styrene	100-42-5	8260D	ND		5.0	2.1	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		5.0	2.0	ug/L	1	
Tetrachloroethene	127-18-4	8260D	73		5.0	2.0	ug/L	1	
Toluene	108-88-3	8260D	ND		5.0	2.0	ug/L	1	

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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6/6/22

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	5	04/26/2022 1722	BWS		39396

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		5.0	2.1	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		5.0	2.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260D	ND		5.0	2.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260D	31		5.0	2.0	ug/L	1
Trichloroethene	79-01-6	8260D	120		5.0	2.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260D	ND		5.0	2.0	ug/L	1
Vinyl chloride	75-01-4	8260D	14		5.0	2.0	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		5.0	2.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D (SIM)	1	04/22/2022 0147	SDC		39016

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,4-Dioxane	123-91-1	8260D (SIM)	52		3.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		105	40-170

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	5	04/26/2022 1748	BWS		39396		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
Acetone	67-64-1	8260D	ND		100	25	ug/L	1	
Benzene	71-43-2	8260D	ND		5.0	2.0	ug/L	1	
Bromodichloromethane	75-27-4	8260D	ND		5.0	2.0	ug/L	1	
Bromoform	75-25-2	8260D	ND		5.0	2.0	ug/L	1	
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		10	2.0	ug/L	1	
2-Butanone (MEK)	78-93-3	8260D	ND		50	10	ug/L	1	
Carbon disulfide	75-15-0	8260D	ND		5.0	2.0	ug/L	1	
Carbon tetrachloride	56-23-5	8260D	ND		5.0	2.0	ug/L	1	
Chlorobenzene	108-90-7	8260D	ND		5.0	2.0	ug/L	1	
Chloroethane	75-00-3	8260D	ND		10	2.0	ug/L	1	
Chloroform	67-66-3	8260D	ND		5.0	2.0	ug/L	1	
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		5.0	2.5	ug/L	1	
Cyclohexane	110-82-7	8260D	ND		5.0	2.0	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		5.0	2.0	ug/L	1	
Dibromochloromethane	124-48-1	8260D	ND		5.0	2.0	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		5.0	2.0	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260D	ND		5.0	2.0	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260D	ND		5.0	2.0	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260D	ND		5.0	2.0	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260D	ND		10	3.0	ug/L	1	
1,1-Dichloroethane	75-34-3	8260D	25		5.0	2.0	ug/L	1	
1,2-Dichloroethane	107-06-2	8260D	7.0		5.0	2.0	ug/L	1	
1,1-Dichloroethene	75-35-4	8260D	23		5.0	2.0	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	460		5.0	2.0	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	14		5.0	2.0	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		5.0	2.0	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		5.0	2.0	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		5.0	2.0	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		5.0	2.0	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		50	10	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		5.0	2.0	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		5.0	2.0	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		5.0	2.0	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		50	10	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		25	2.0	ug/L	1	
Methylene chloride	75-09-2	8260D	7.6		5.0	2.0	ug/L	1	
Styrene	100-42-5	8260D	ND		5.0	2.1	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		5.0	2.0	ug/L	1	
Tetrachloroethene	127-18-4	8260D	79		5.0	2.0	ug/L	1	
Toluene	108-88-3	8260D	ND		5.0	2.0	ug/L	1	

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Client: EarthCon Consultants, Inc.	Laboratory ID: XD19085-010
Description: Dup-02-GW-041922	Matrix: Aqueous
Date Sampled: 04/19/2022	
Date Received: 04/19/2022	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	5	04/26/2022 1748	BWS		39396

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		5.0	2.1	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		5.0	2.0	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260D	ND		5.0	2.0	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260D	32		5.0	2.0	ug/L	1
Trichloroethene	79-01-6	8260D	120		5.0	2.0	ug/L	1
Trichlorofluoromethane	75-69-4	8260D	ND		5.0	2.0	ug/L	1
Vinyl chloride	75-01-4	8260D	14		5.0	2.0	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		5.0	2.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		103	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D (SIM)	1	04/22/2022 0211	SDC		39016

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,4-Dioxane	123-91-1	8260D (SIM)	49		3.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		112	40-170

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Description: MW-7

Matrix: Aqueous

Date Sampled: 04/20/2022 0910

Date Received: 04/20/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity @) SM 2320B-2011	1	04/21/2022 1847	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 1759	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 1759	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 1759	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/26/2022 1403	SJL		39372
2		(TOC) 9060A	1	05/04/2022 0136	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	24		20	20	mg CaCO3/L	1
Chloride		9056A	18		1.0	0.25	mg/L	1
Nitrate - N		9056A	ND		0.020	0.0050	mg/L	1
Sulfate		9056A	0.52	J	1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	6.0		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/29/2022 1719	JWO		39876
2	5030B	8260D	20	05/02/2022 1908	JWO		40083

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	20.10	J U	20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 5.939 - 6.11

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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Description: MW-7

Matrix: Aqueous

Date Sampled: 04/20/2022 0910

Date Received: 04/20/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/29/2022 1719	JWO		39876
2	5030B	8260D	20	05/02/2022 1908	JWO		40083

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
1,1-Dichloroethene	75-35-4	8260D	1.2		1.0	0.40	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260D	710		20	8.0	ug/L	2
trans-1,2-Dichloroethene	156-60-5	8260D	5.9		1.0	0.40	ug/L	1
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1
Ethylbenzene	100-41-4	8260D	240		20	8.0	ug/L	2
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1
isopropylbenzene	98-82-8	8260D	2.3		1.0	0.40	ug/L	1
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260D	6.4		1.0	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1
Trichloroethene	79-01-6	8260D	0.66	J	1.0	0.40	ug/L	1
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1
Vinyl chloride	75-01-4	8260D	1400		20	8.0	ug/L	2
Xylenes (total)	1330-20-7	8260D	660		20	8.0	ug/L	2

Surrogate	Run 1			Run 2		
	Q	% Recovery	Acceptance Limits	Q	% Recovery	Acceptance Limits
Bromofluorobenzene		107	70-130		106	70-130
1,2-Dichloroethane-d4		116	70-130		119	70-130
Toluene-d8		101	70-130		100	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D (SIM)	1	04/22/2022 0236	SDC		39016

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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LOQ = Limit of Quantitation
 ND = Not detected at or above the DL
 H = Out of holding time
 B = Detected in the method blank
 N = Recovery is out of criteria
 W = Reported on wet weight basis
 E = Quantitation of compound exceeded the calibration range
 P = The RPD between two GC columns exceeds 40%
 DL = Detection Limit
 J = Estimated result < LOQ and ≥ DL
 Q = Surrogate failure
 L = LCS/LCSD failure
 S = MS/MSD failure

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Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D (SIM)	1	04/22/2022 0236	SDC		39016

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,4-Dioxane	123-91-1	8260D (SIM)	1.5	J	3.0	1.0	ug/L	1

Surrogate	Run 1 Q	% Recovery	Acceptance Limits
1,2-Dichloroethane-d4		108	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/22/2022 1117	JM1		39117

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	30		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	150		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	1600		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Description: MW-16

Matrix: Aqueous

Date Sampled: 04/20/2022 1005

Date Received: 04/20/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity @) SM 2320B-2011	1	04/21/2022 1851	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 1818	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 1818	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 1818	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/26/2022 1403	SJL		39372
2		(TOC) 9060A	1	05/04/2022 0159	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	12		1.0	0.25	mg/L	1
Nitrate - N		9056A	5.3		0.020	0.0050	mg/L	1
Sulfate		9056A	0.41	J	1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	ND		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/29/2022 1744	JWO		39876
2	5030B	8260D	1	05/02/2022 1251	JWO		40083

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	1.6		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 0.173 - 0.254

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/29/2022 1744	JWO		39876
2	5030B	8260D	1	05/02/2022 1251	JWO		40083

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	2
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	2
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	2

Surrogate	Run 1		Acceptance Limits	Run 2		Acceptance Limits
	Q	% Recovery		Q	% Recovery	
Bromofluorobenzene		99	70-130		100	70-130
1,2-Dichloroethane-d4		119	70-130		119	70-130
Toluene-d8		103	70-130		105	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D (SIM)	1	04/22/2022 0301	SDC		39016

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

mab
6/6/22

Client: EarthCon Consultants, Inc.	Laboratory ID: XD20108-002
Description: MW-16	Matrix: Aqueous
Date Sampled: 04/20/2022 1005	
Date Received: 04/20/2022	

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D (SIM)	1	04/22/2022 0301	SDC		39016		
Parameter		CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,4-Dioxane		123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,2-Dichloroethane-d4		109	40-170						

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1		RSK - 175	1	04/22/2022 1133	JM1		39117		
Parameter		CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane		74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene		74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane		74-82-8	RSK - 175	2.8	J	10	2.5	ug/L	1
Propane		74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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YMAB
 6/6/22

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity @) SM 2320B-2011	1	04/21/2022 1855	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 1837	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 1837	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 1837	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/26/2022 1403	SJL		39372
2		(TOC) 9060A	1	05/04/2022 0223	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	ND		1.0	0.25	mg/L	1
Nitrate - N		9056A	ND		0.020	0.0050	mg/L	1
Sulfate		9056A	ND		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	ND		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/28/2022 0139	JMM2		39612

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 0.209 - 0.229

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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MAB
 6/6/22

Description: EB-01-042022

Matrix: Aqueous

Date Sampled: 04/20/2022 1030

Date Received: 04/20/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	1	04/28/2022 0139	JMM2		39612		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1	

Surrogate	Run 1 Q	% Recovery	Acceptance Limits
Bromofluorobenzene	92		70-130
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	100		70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D (SIM)	1	04/22/2022 0325	SDC		39016		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1	

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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MAB
6/6/22

Client: EarthCon Consultants, Inc.	Laboratory ID: XD20108-003
Description: EB-01-042022	Matrix: Aqueous
Date Sampled: 04/20/2022 1030	
Date Received: 04/20/2022	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/22/2022 1149	JM1		39117

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	ND		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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MAB
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Description: MW-11

Matrix: Aqueous

Date Sampled: 04/20/2022 0950

Date Received: 04/20/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity @) SM 2320B-2011	1	04/21/2022 1902	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 1855	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 1855	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 1855	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/26/2022 1403	SJL		39372
2		(TOC) 9060A	1	05/04/2022 0246	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	44		20	20	mg CaCO ₃ /L	1
Chloride		9056A	3.4		1.0	0.25	mg/L	1
Nitrate - N		9056A	ND		0.020	0.0050	mg/L	1
Sulfate		9056A	5.6		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	2.1		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/29/2022 1809	JWO		39876

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 2.069 - 2.152

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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MAB
6/6/22

Client: EarthCon Consultants, Inc.

Laboratory ID: XD20108-004

Description: MW-11

Matrix: Aqueous

Date Sampled: 04/20/2022 0950

Date Received: 04/20/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	1	04/29/2022 1809	JWO		39876		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		119	70-130
Toluene-d8		99	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D (SIM)	1	04/22/2022 0349	SDC		39016		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1	

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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MAB
6/6/22

Client: EarthCon Consultants, Inc.	Laboratory ID: XD20108-004
Description: MW-11	Matrix: Aqueous
Date Sampled: 04/20/2022 0950	
Date Received: 04/20/2022	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4	109		40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/22/2022 1204	JM1		39117

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	200		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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MAB
 6/6/22

Description: MW-3D

Matrix: Aqueous

Date Sampled: 04/20/2022 1130

Date Received: 04/20/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity @) SM 2320B-2011	1	04/21/2022 1905	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 1914	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 1914	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 1914	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/26/2022 1403	SJL		39372
2		(TOC) 9060A	1	05/04/2022 0358	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	12		1.0	0.25	mg/L	1
Nitrate - N		9056A	3.5		0.020	0.0050	mg/L	1
Sulfate		9056A	0.41	J	1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	ND		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/29/2022 1834	JWO		39876

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	0.94	J	1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 0.367 - 0.419

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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MAB
 6/6/22

Description: MW-3D

Matrix: Aqueous

Date Sampled: 04/20/2022 1130

Date Received: 04/20/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	1	04/29/2022 1834	JWO		39876		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		118	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D (SIM)	1	04/22/2022 0414	SDC		39016		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1	

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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mab
6/6/22

Client: EarthCon Consultants, Inc.	Laboratory ID: XD20108-005
Description: MW-3D	Matrix: Aqueous
Date Sampled: 04/20/2022 1130	
Date Received: 04/20/2022	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		105	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/22/2022 1220	JM1		39117

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	ND		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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MAB
 6/6/22

Description: MW-3

Matrix: Aqueous

Date Sampled: 04/20/2022 1315

Date Received: 04/20/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity @) SM 2320B-2011	1	04/21/2022 1909	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 1933	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 1933	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 1933	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/27/2022 1412	SJL		39491
2		(TOC) 9060A	1	05/04/2022 0422	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	39		1.0	0.25	mg/L	1
Nitrate - N		9056A	ND		0.020	0.0050	mg/L	1
Sulfate		9056A	ND		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	2.5		1.0	1.0	mg/L	1
TOC		9060A	12		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	200	04/29/2022 1901	BWS		39889

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		4000	1000	ug/L	1
Benzene	71-43-2	8260D	ND		200	80	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		200	80	ug/L	1
Bromoform	75-25-2	8260D	ND		200	80	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND	S	400	80	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		2000	400	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		200	80	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		200	80	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		200	80	ug/L	1
Chloroethane	75-00-3	8260D	ND		400	80	ug/L	1
Chloroform	67-66-3	8260D	ND		200	80	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		200	100	ug/L	1
Cyclohexane	110-82-7	8260D	ND		200	80	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		200	80	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		200	80	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		200	80	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		200	80	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		200	80	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		200	80	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND	S	400	120	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	960		200	80	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		200	80	ug/L	1

TOC Range: 12.339 - 12.506

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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MAB
6/6/22

Description: MW-3

Matrix: Aqueous

Date Sampled: 04/20/2022 1315

Date Received: 04/20/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	200	04/29/2022 1901	BWS		39889		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1-Dichloroethene	75-35-4	8260D	400		200	80	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	16000		200	80	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	130	J	200	80	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		200	80	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		200	80	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		200	80	ug/L	1	
Ethylbenzene	100-41-4	8260D	330		200	80	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		2000	400	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		200	80	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		200	80	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		200	80	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		2000	400	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		1000	80	ug/L	1	
Methylene chloride	75-09-2	8260D	ND		200	80	ug/L	1	
Styrene	100-42-5	8260D	ND		200	82	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		200	80	ug/L	1	
Tetrachloroethene	127-18-4	8260D	ND		200	80	ug/L	1	
Toluene	108-88-3	8260D	120	J	200	80	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		200	84	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		200	80	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260D	ND		200	80	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260D	ND		200	80	ug/L	1	
Trichloroethene	79-01-6	8260D	ND		200	80	ug/L	1	
Trichlorofluoromethane	75-69-4	8260D	ND		200	80	ug/L	1	
Vinyl chloride	75-01-4	8260D	1300	S J	200	80	ug/L	1	
Xylenes (total)	1330-20-7	8260D	1300		200	80	ug/L	1	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		103	70-130
1,2-Dichloroethane-d4		102	70-130
Toluene-d8		96	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
2	5030B	8260D (SIM)	5	04/28/2022 1932	BWS		39725		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane	123-91-1	8260D (SIM)	240	S	15	5.0	ug/L	2	

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

MAB
 6/6/22

Client: EarthCon Consultants, Inc.	Laboratory ID: XD20108-006
Description: MW-3	Matrix: Aqueous
Date Sampled: 04/20/2022 1315	
Date Received: 04/20/2022	

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		98	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/22/2022 1236	JM1		39117
2		RSK - 175	10	04/28/2022 1838	JM1		39707

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	33		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	110		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	7900		100	25	ug/L	2
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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MAB
 6/6/22

Description: MW-10

Matrix: Aqueous

Date Sampled: 04/20/2022 1420

Date Received: 04/20/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity @) SM 2320B-2011	1	04/21/2022 1921	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 1952	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 1952	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 1952	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/27/2022 1412	SJL		39491
2		(TOC) 9060A	1	05/04/2022 0445	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	11		1.0	0.25	mg/L	1
Nitrate - N		9056A	ND		0.020	0.0050	mg/L	1
Sulfate		9056A	6.1		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	2.1		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/02/2022 1316	JWO		40083

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 2.047 - 2.138

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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MAB
 6/6/22

Description: MW-10

Matrix: Aqueous

Date Sampled: 04/20/2022 1420

Date Received: 04/20/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	1	05/02/2022 1316	JWO		40083		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		118	70-130
Toluene-d8		103	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
2	5030B	8260D (SIM)	1	04/28/2022 1551	BWS		39725		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	2	

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Client: EarthCon Consultants, Inc.	Laboratory ID: XD20108-007
Description: MW-10	Matrix: Aqueous
Date Sampled: 04/20/2022 1420	
Date Received: 04/20/2022	

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4	106		40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/22/2022 1252	JM1		39117

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	62		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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MAB
 6/6/22

Description: MW-14

Matrix: Aqueous

Date Sampled: 04/20/2022 1520

Date Received: 04/20/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity @) SM 2320B-2011	1	04/21/2022 1934	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 2011	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 2011	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 2011	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/27/2022 1412	SJL		39491
2		(TOC) 9060A	1	05/04/2022 0557	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO ₃ /L	1
Chloride		9056A	3.3		1.0	0.25	mg/L	1
Nitrate - N		9056A	ND		0.020	0.0050	mg/L	1
Sulfate		9056A	4.8		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	1.3		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/02/2022 1341	JWO		40083

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 1.282 - 1.328

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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6/6/22

Description: MW-14

Matrix: Aqueous

Date Sampled: 04/20/2022 1520

Date Received: 04/20/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	1	05/02/2022 1341	JWO		40083		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		118	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D (SIM)	1	04/22/2022 0527	SDC		39016		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1	

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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6/6/22

Client: EarthCon Consultants, Inc.	Laboratory ID: XD20108-008
Description: MW-14	Matrix: Aqueous
Date Sampled: 04/20/2022 1520	
Date Received: 04/20/2022	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		107	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/22/2022 1308	JM1		39117

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	96		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	(Alkalinity @)	SM 2320B-2011	1	04/21/2022 1939	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 2030	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 2030	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 2030	CAW		39110
1	(Sulfide)	SM 4500-S2 F-2011	1	04/27/2022 1412	SJL		39491
2		(TOC) 9060A	1	05/04/2022 0620	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	8.9		1.0	0.25	mg/L	1
Nitrate - N		9056A	0.013	J	0.020	0.0050	mg/L	1
Sulfate		9056A	2.2		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	1.2		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/02/2022 1406	JWO		40083

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 1.172 - 1.222

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	1	05/02/2022 1406	JWO		40083		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	5.5		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260D	2.5		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260D	0.51	J	1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260D	4.9		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		115	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D (SIM)	1	04/22/2022 0551	SDC		39016		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1	

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

MAB
6/6/22

Client: EarthCon Consultants, Inc.	Laboratory ID: XD20108-009
Description: MW-4	Matrix: Aqueous
Date Sampled: 04/20/2022 1528	
Date Received: 04/20/2022	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/22/2022 1324	JM1		39117

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	2.9	J	10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
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MAB
 6/6/22

Description: MW-4D

Matrix: Aqueous

Date Sampled: 04/20/2022 1442

Date Received: 04/20/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity @) SM 2320B-2011	1	04/21/2022 1944	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 2049	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 2049	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 2049	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/27/2022 1412	SJL		39491
2		(TOC) 9060A	1	05/04/2022 0644	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	1.8		1.0	0.25	mg/L	1
Nitrate - N		9056A	0.069		0.020	0.0050	mg/L	1
Sulfate		9056A	1.0		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	ND		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/02/2022 1432	JWO		40083

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 0.094 - 0.122

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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6/6/22

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	1	05/02/2022 1432	JWO		40083		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1-Dichloroethene	75-35-4	8260D	1.0		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	0.74	J	1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260D	32		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260D	1.4		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		120	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D (SIM)	1	04/22/2022 0616	SDC		39016		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1	

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

MAB
 6/6/22

Client: EarthCon Consultants, Inc.	Laboratory ID: XD20108-010
Description: MW-4D	Matrix: Aqueous
Date Sampled: 04/20/2022 1442	
Date Received: 04/20/2022	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4	107		40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/22/2022 1340	JM1		39117

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	ND		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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 6/6/22

Description: MW-18

Matrix: Aqueous

Date Sampled: 04/20/2022 1345

Date Received: 04/20/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity @) SM 2320B-2011	1	04/21/2022 1951	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 2224	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 2224	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 2224	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/27/2022 1412	SJL		39491
2		(TOC) 9060A	1	05/04/2022 0707	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	38		20	20	mg CaCO ₃ /L	1
Chloride		9056A	7.5		1.0	0.25	mg/L	1
Nitrate - N		9056A	1.5		0.020	0.0050	mg/L	1
Sulfate		9056A	2.3		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND	S	1.0	1.0	mg/L	1
TOC		9060A	0.71	J	1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/04/2022 0246	SDC		40291
2	5030B	8260D	5	05/06/2022 2006	JWO		40715

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	12	J	20	5.0	ug/L	1
Benzene	71-43-2	8260D	1.1		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	0.48	J	1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	0.49	J	1.0	0.40	ug/L	1

TOC Range: 0.694 - 0.713

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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6/6/22

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/04/2022 0246	SDC		40291
2	5030B	8260D	5	05/06/2022 2006	JWO		40715

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
1,1-Dichloroethene	75-35-4	8260D	13		1.0	0.40	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260D	9.2		1.0	0.40	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1
Tetrachloroethene	127-18-4	8260D	390	HJ	5.0	2.0	ug/L	2
Toluene	108-88-3	8260D	1.4		1.0	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260D	0.89	J	1.0	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260D	17		1.0	0.40	ug/L	1
Trichloroethene	79-01-6	8260D	550	HJ	5.0	2.0	ug/L	2
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1
Vinyl chloride	75-01-4	8260D	0.81	J	1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	8.8		1.0	0.40	ug/L	1

Surrogate	Run 1			Run 2		
	Q	% Recovery	Acceptance Limits	Q	% Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130	H	108	70-130
1,2-Dichloroethane-d4		119	70-130	H	111	70-130
Toluene-d8		100	70-130	H	112	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D (SIM)	1	04/22/2022 0640	SDC		39016

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

MAB
6/6/22

Client: EarthCon Consultants, Inc.	Laboratory ID: XD20108-011
Description: MW-18	Matrix: Aqueous
Date Sampled: 04/20/2022 1345	
Date Received: 04/20/2022	

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D (SIM)	1	04/22/2022 0640	SDC		39016

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		108	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/22/2022 1356	JM1		39117

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	8.3	J	10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	44		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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MAB
 6/6/22

Description: Dup-01

Matrix: Aqueous

Date Sampled: 04/20/2022

Date Received: 04/20/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity @) SM 2320B-2011	1	04/21/2022 1958	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 2243	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 2243	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 2243	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/27/2022 1412	SJL		39491
2		(TOC) 9060A	1	05/04/2022 0731	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	37		20	20	mg CaCO3/L	1
Chloride		9056A	7.5		1.0	0.25	mg/L	1
Nitrate - N		9056A	1.5		0.020	0.0050	mg/L	1
Sulfate		9056A	2.1		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	0.86	J	1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/04/2022 0312	SDC		40291
2	5030B	8260D	5	05/06/2022 1936	BWS		40706

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	11 → 20 u		20	5.0	ug/L	1
Benzene	71-43-2	8260D	1.1		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	0.46	J	1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	0.51	J	1.0	0.40	ug/L	1

TOC Range: 0.854 - 0.868

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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MaB
6/6/22

Description: Dup-01

Matrix: Aqueous

Date Sampled: 04/20/2022

Date Received: 04/20/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/04/2022 0312	SDC		40291
2	5030B	8260D	5	05/06/2022 1936	BWS		40706

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
1,1-Dichloroethene	75-35-4	8260D	13		1.0	0.40	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260D	9.4		1.0	0.40	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1
Tetrachloroethene	127-18-4	8260D	360	H J	5.0	2.0	ug/L	2
Toluene	108-88-3	8260D	1.4		1.0	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260D	0.89	J	1.0	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260D	17		1.0	0.40	ug/L	1
Trichloroethene	79-01-6	8260D	480	H J	5.0	2.0	ug/L	2
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1
Vinyl chloride	75-01-4	8260D	0.74	J	1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	8.8		1.0	0.40	ug/L	1

Surrogate	Run 1 Q % Recovery	Acceptance Limits	Run 2 Q % Recovery	Acceptance Limits
Bromofluorobenzene	100	70-130	H 86	70-130
1,2-Dichloroethane-d4	123	70-130	H 118	70-130
Toluene-d8	101	70-130	H 95	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D (SIM)	1	04/22/2022 0705	SDC		39016

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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mab
 6/6/22

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D (SIM)	1	04/22/2022 0705	SDC		39016

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1

Surrogate	Run 1 Q	% Recovery	Acceptance Limits
1,2-Dichloroethane-d4		107	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/22/2022 1412	JM1		39117

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	2.6	J	10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	9.6	J	10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	45		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

mab
6/6/22

Description: Trip Blank

Matrix: Aqueous

Date Sampled: 04/20/2022

Date Received: 04/20/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	1	04/29/2022 0058	JMM2		39779		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
Acetone	67-64-1	8260D	11	J	20	5.0	ug/L	1	
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1	
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1	
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1	
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1	
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1	
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1	
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1	
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1	
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1	
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1	
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1	
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1	
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1	
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1	

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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MAB

6/6/22

Client: EarthCon Consultants, Inc.	Laboratory ID: XD20108-013
Description: Trip Blank	Matrix: Aqueous
Date Sampled: 04/20/2022	
Date Received: 04/20/2022	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/29/2022 0058	JMM2		39779

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		101	70-130

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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MAB
 6/6/22

Description: MW-5

Matrix: Aqueous

Date Sampled: 04/21/2022 0940

Date Received: 04/21/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Alkalinity @) SM 2320B-2011	1	04/25/2022 1709	TAD		39343
1		(Chloride) 9056A	1	04/22/2022 1445	YCB		39184
1		(Nitrate - N) 9056A	1	04/22/2022 1445	CAW		39284
1		(Sulfate) 9056A	1	04/22/2022 1445	CAW		39281
1		(Sulfide) SM 4500-S2 F-2011	1	04/27/2022 1412	SJL		39491
1		(TOC) 9060A	1	05/05/2022 0556	DMA		40429

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	16		1.0	0.25	mg/L	1
Nitrate - N		9056A	0.35		0.020	0.0050	mg/L	1
Sulfate		9056A	0.68	J	1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	2.9		1.0	1.0	mg/L	1
TOC		9060A	0.42	J	1.0	0.42	mg/L	1

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/28/2022 0407	JMM2		39612
2	5030B	8260D	5	04/29/2022 0553	JMM2		39778

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	2.6		1.0	0.40	ug/L	1

TOC Range: 0.362 - 0.467

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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MAB
 6/6/22

Description: MW-5

Matrix: Aqueous

Date Sampled: 04/21/2022 0940

Date Received: 04/21/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/28/2022 0407	JMM2		39612
2	5030B	8260D	5	04/29/2022 0553	JMM2		39778

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dichloroethane	107-06-2	8260D	0.64	J	1.0	0.40	ug/L	1
1,1-Dichloroethene	75-35-4	8260D	1.4		1.0	0.40	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260D	330		5.0	2.0	ug/L	2
trans-1,2-Dichloroethene	156-60-5	8260D	2.8		1.0	0.40	ug/L	1
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1
Tetrachloroethene	127-18-4	8260D	150		1.0	0.40	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260D	0.61	J	1.0	0.40	ug/L	1
Trichloroethene	79-01-6	8260D	220		5.0	2.0	ug/L	2
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1
Vinyl chloride	75-01-4	8260D	6.1		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Run 1 Acceptance		Run 2 Acceptance	
	Q	% Recovery	Q	% Recovery
Bromofluorobenzene		94		97
1,2-Dichloroethane-d4		106		96
Toluene-d8		100		103

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D (SIM)	1	04/28/2022 1616	BWS		39725

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

MAB
6/6/22

Client: EarthCon Consultants, Inc.	Laboratory ID: XD21014-001
Description: MW-5	Matrix: Aqueous
Date Sampled: 04/21/2022 0940	
Date Received: 04/21/2022	

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D (SIM)	1	04/28/2022 1616	BWS		39725

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,4-Dioxane	123-91-1	8260D (SIM)	9.0		3.0	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		105	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/28/2022 1805	JM1		39707

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	1200		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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MAB
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Client: EarthCon Consultants, Inc.	Laboratory ID: XD21014-002
Description: TCLP-VOC	Matrix: Solid
Date Sampled: 04/21/2022 1000	
Date Received: 04/21/2022	

TCLP Volatiles

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Leachate Date
1	1311/5030B	8260D	10	05/09/2022 1206	BWS		40923	04/25/2022 2203

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	8260D	ND		0.050	0.0040	mg/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		0.10	0.020	mg/L	1
Carbon tetrachloride	56-23-5	8260D	ND		0.050	0.0040	mg/L	1
Chlorobenzene	108-90-7	8260D	ND		0.050	0.0040	mg/L	1
Chloroform	67-66-3	8260D	ND		0.050	0.0040	mg/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		0.050	0.0040	mg/L	1
1,1-Dichloroethene	75-35-4	8260D	ND		0.050	0.0040	mg/L	1
Tetrachloroethene	127-18-4	8260D	ND		0.050	0.0040	mg/L	1
Trichloroethene	79-01-6	8260D	ND		0.050	0.0040	mg/L	1
Vinyl chloride	75-01-4	8260D	ND		0.010	0.0040	mg/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		92	70-130
1,2-Dichloroethane-d4		102	70-130
Toluene-d8		98	70-130

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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TCLP Volatiles

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Leachate Date
1	1311/5030B	8260D	10	05/11/2022 1527	BWS		41267	04/27/2022 1756

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	8260D	ND		0.050	0.0040	mg/L	1
2-Butanone (MEK)	78-93-3	8260D	ND	X	0.10	0.020	mg/L	1
Carbon tetrachloride	56-23-5	8260D	ND		0.050	0.0040	mg/L	1
Chlorobenzene	108-90-7	8260D	ND		0.050	0.0040	mg/L	1
Chloroform	67-66-3	8260D	ND		0.050	0.0040	mg/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		0.050	0.0040	mg/L	1
1,1-Dichloroethene	75-35-4	8260D	ND		0.050	0.0040	mg/L	1
Tetrachloroethene	127-18-4	8260D	0.023	J	0.050	0.0040	mg/L	1
Trichloroethene	79-01-6	8260D	0.034	J	0.050	0.0040	mg/L	1
Vinyl chloride	75-01-4	8260D	ND		0.010	0.0040	mg/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		109	70-130
Toluene-d8		122	70-130

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

MAB
6/6/22

Description: TB-03

Matrix: Aqueous

Date Sampled: 04/22/2022

Date Received: 04/22/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	1	04/28/2022 0204	JMM2		39612		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1	
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1	
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1	
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1	
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1	
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1	
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1	
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1	
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1	
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1	
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1	
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1	
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1	
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1	
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260D	1.0		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1	
1,1,1,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1	

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/28/2022 0204	JMM2		39612

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		92	70-130
1,2-Dichloroethane-d4		107	70-130
Toluene-d8		99	70-130

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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 6/6/22



Report of Analysis

EarthCon Consultants, Inc.
1880 West Oak Parkway
Building 100, Suite 106
Marietta, GA 30062
Attention: Tiffany Messier

Project Name: Lennox
Project Number: EC02.20160378.21
Lot Number: **XD19085**
Date Completed: 05/12/2022

05/13/2022 3:37 PM
Approved and released by:
Project Manager II: **Lucas Odom**



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PACE ANALYTICAL SERVICES, LLC

SC DHEC No: 32010001

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

Case Narrative EarthCon Consultants, Inc. Lot Number: XD19085

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report. Where sampling is conducted by the client, results relate to the accuracy of the information provided, and as the samples are received.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved The NELAC Institute (TNI) standards, the Pace Analytical Services, LLC ("Pace") Laboratory Quality Manual, standard operating procedures (SOPs), and Pace policies. Any exceptions to the TNI standards, the Laboratory Quality Manual, SOPs or policies are qualified on the results page or discussed below.

Pace is a TNI accredited laboratory; however, the following analyses are currently not listed on our TNI scope of accreditation: Drinking Water: VOC (excluding BTEX, MTBE, Naphthalene, & 1,2-dichloroethane) EPA 524.2, E. coli and Total coliforms SM 9223 B-2004, Solid Chemical Material: TOC Walkley-Black, Biological Tissue: All, Non-Potable Water: SGT-HEM EPA 1664B, Silica EPA 200.7, Boron, Calcium, Silicon, Strontium EPA 200.8, Bicarbonate, Carbonate, and Hydroxide Alkalinity SM 2320 B-2011, SM 9221 C E-2006 & SM 9222D-2006, Strontium SW-846 6010D, VOC SM 6200 B-2011, Fecal Coliform Colilert-18.

If you have any questions regarding this report, please contact the Pace Project Manager listed on the cover page.

Inorganic Non-Metals

Reanalysis of the following samples was performed outside of the analytical holding time: XD19085-001, XD19085-002, XD19085-003, XD19085-004, XD19085-005, XD19085-006. The samples were ran 1 day out of hold due to overflow of samples along with the instrument being down for 1 day due the need for maintainance and calibration.

The Nitrate batch QC associated with the sample -005 was analyzed in a bracket containing too many injections between CCV/CCB pairs. A CCV was analyzed within the bracket with no associated CCB. As a result, there were 13 injections between CCV/CCB pairs. All bracketing QC passes as well as the LOQ, LCS and single CCV. The data is reported.

No matrix spikes were analyzed with the Sulfate data associated with samples -001, -002, -003, -004, -005, and -006. Multiple LCSs were analyzed and all passed criteria. Therefore, the batch contains an LCS and LCS duplicate, which pass criteria for recovery and RPD.

The MS/MSD associated with Sulfide batch 39182 recovered outside of method criteria. Associated samples have been qualified with an "S".

VOCs by GC/MS

Insufficient sample volume was provided to perform matrix spike/matrix spike duplicate (MS/MSD) for analytical batch 39016. An LCS/LCSD was run in lieu of an MS/MSD.

PACE ANALYTICAL SERVICES, LLC

Sample Summary EarthCon Consultants, Inc. Lot Number: XD19085

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-17	Aqueous	04/19/2022 0905	04/19/2022
002	MW-15	Aqueous	04/19/2022 1030	04/19/2022
003	MW-2D	Aqueous	04/19/2022 1130	04/19/2022
004	MW-2	Aqueous	04/19/2022 1230	04/19/2022
005	MW-1D	Aqueous	04/19/2022 1420	04/19/2022
006	MW-1	Aqueous	04/19/2022 1520	04/19/2022
007	TB-01	Aqueous	04/19/2022	04/19/2022
008	DP-15-15	Aqueous	04/19/2022 1507	04/19/2022
009	DP-15-22	Aqueous	04/19/2022 1529	04/19/2022
010	Dup-02-GW-041922	Aqueous	04/19/2022	04/19/2022

(10 samples)

PACE ANALYTICAL SERVICES, LLC

Detection Summary EarthCon Consultants, Inc. Lot Number: XD19085

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	MW-17	Aqueous	Chloride	9056A	7.4		mg/L	9
001	MW-17	Aqueous	Nitrate - N	9056A	1.7	H	mg/L	9
001	MW-17	Aqueous	Sulfate	9056A	12		mg/L	9
001	MW-17	Aqueous	Chloroform	8260D	0.81	J	ug/L	9
002	MW-15	Aqueous	Chloride	9056A	3.3		mg/L	12
002	MW-15	Aqueous	Nitrate - N	9056A	0.042	HJ	mg/L	12
002	MW-15	Aqueous	Sulfate	9056A	9.5		mg/L	12
002	MW-15	Aqueous	TOC	9060A	0.54	J	mg/L	12
002	MW-15	Aqueous	Methane	RSK - 175	8.0	J	ug/L	14
003	MW-2D	Aqueous	Chloride	9056A	2.9		mg/L	15
003	MW-2D	Aqueous	Nitrate - N	9056A	0.16	H	mg/L	15
003	MW-2D	Aqueous	Sulfate	9056A	0.92	J	mg/L	15
003	MW-2D	Aqueous	Acetone	8260D	10	J	ug/L	15
004	MW-2	Aqueous	Chloride	9056A	6.1		mg/L	18
004	MW-2	Aqueous	Nitrate - N	9056A	1.2		mg/L	18
004	MW-2	Aqueous	Sulfate	9056A	3.7		mg/L	18
005	MW-1D	Aqueous	Chloride	9056A	1.8		mg/L	21
005	MW-1D	Aqueous	Sulfate	9056A	0.39	J	mg/L	21
005	MW-1D	Aqueous	cis-1,2-Dichloroethene	8260D	1.1		ug/L	22
005	MW-1D	Aqueous	Tetrachloroethene	8260D	86		ug/L	22
005	MW-1D	Aqueous	Trichloroethene	8260D	14		ug/L	22
005	MW-1D	Aqueous	Methane	RSK - 175	3.6	J	ug/L	23
006	MW-1	Aqueous	Chloride	9056A	16		mg/L	24
006	MW-1	Aqueous	Sulfate	9056A	3.3		mg/L	24
006	MW-1	Aqueous	TOC	9060A	1.3		mg/L	24
006	MW-1	Aqueous	cis-1,2-Dichloroethene	8260D	1400		ug/L	25
006	MW-1	Aqueous	trans-1,2-Dichloroethene	8260D	5.0	J	ug/L	25
006	MW-1	Aqueous	Ethylbenzene	8260D	100		ug/L	25
006	MW-1	Aqueous	Methylene chloride	8260D	7.2	J	ug/L	25
006	MW-1	Aqueous	Vinyl chloride	8260D	55		ug/L	25
006	MW-1	Aqueous	Xylenes (total)	8260D	570		ug/L	25
006	MW-1	Aqueous	Ethene	RSK - 175	13		ug/L	26
006	MW-1	Aqueous	Methane	RSK - 175	470		ug/L	26
008	DP-15-15	Aqueous	1,1-Dichloroethane	8260D	22		ug/L	29
008	DP-15-15	Aqueous	1,2-Dichloroethane	8260D	6.4		ug/L	29
008	DP-15-15	Aqueous	1,1-Dichloroethene	8260D	17		ug/L	29
008	DP-15-15	Aqueous	cis-1,2-Dichloroethene	8260D	420		ug/L	29
008	DP-15-15	Aqueous	trans-1,2-Dichloroethene	8260D	12		ug/L	29
008	DP-15-15	Aqueous	Methylene chloride	8260D	5.5		ug/L	29
008	DP-15-15	Aqueous	Tetrachloroethene	8260D	60		ug/L	29
008	DP-15-15	Aqueous	1,1,2-Trichloroethane	8260D	30		ug/L	30
008	DP-15-15	Aqueous	Trichloroethene	8260D	97		ug/L	30
008	DP-15-15	Aqueous	Vinyl chloride	8260D	11		ug/L	30
008	DP-15-15	Aqueous	1,4-Dioxane	8260D (SIM)	51		ug/L	30
009	DP-15-22	Aqueous	1,1-Dichloroethane	8260D	24		ug/L	31

Detection Summary (Continued)

Lot Number: XD19085

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
009	DP-15-22	Aqueous	1,2-Dichloroethane	8260D	6.7		ug/L	31
009	DP-15-22	Aqueous	1,1-Dichloroethene	8260D	22		ug/L	31
009	DP-15-22	Aqueous	cis-1,2-Dichloroethene	8260D	430		ug/L	31
009	DP-15-22	Aqueous	trans-1,2-Dichloroethene	8260D	13		ug/L	31
009	DP-15-22	Aqueous	Methylene chloride	8260D	7.4		ug/L	31
009	DP-15-22	Aqueous	Tetrachloroethene	8260D	73		ug/L	31
009	DP-15-22	Aqueous	1,1,2-Trichloroethane	8260D	31		ug/L	32
009	DP-15-22	Aqueous	Trichloroethene	8260D	120		ug/L	32
009	DP-15-22	Aqueous	Vinyl chloride	8260D	14		ug/L	32
009	DP-15-22	Aqueous	1,4-Dioxane	8260D (SIM)	52		ug/L	32
010	Dup-02-GW-041922	Aqueous	1,1-Dichloroethane	8260D	25		ug/L	33
010	Dup-02-GW-041922	Aqueous	1,2-Dichloroethane	8260D	7.0		ug/L	33
010	Dup-02-GW-041922	Aqueous	1,1-Dichloroethene	8260D	23		ug/L	33
010	Dup-02-GW-041922	Aqueous	cis-1,2-Dichloroethene	8260D	460		ug/L	33
010	Dup-02-GW-041922	Aqueous	trans-1,2-Dichloroethene	8260D	14		ug/L	33
010	Dup-02-GW-041922	Aqueous	Methylene chloride	8260D	7.6		ug/L	33
010	Dup-02-GW-041922	Aqueous	Tetrachloroethene	8260D	79		ug/L	33
010	Dup-02-GW-041922	Aqueous	1,1,2-Trichloroethane	8260D	32		ug/L	34
010	Dup-02-GW-041922	Aqueous	Trichloroethene	8260D	120		ug/L	34
010	Dup-02-GW-041922	Aqueous	Vinyl chloride	8260D	14		ug/L	34
010	Dup-02-GW-041922	Aqueous	1,4-Dioxane	8260D (SIM)	49		ug/L	34

(66 detections)

Description: MW-17

Matrix: Aqueous

Date Sampled: 04/19/2022 0905

Date Received: 04/19/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	(Alkalinity @)	SM 2320B-2011	1	04/20/2022 2339	TAD		38960
1		(Chloride) 9056A	1	04/21/2022 0408	CAW		39114
2		(Nitrate - N) 9056A	5	04/22/2022 0539	CAW		39106
1		(Sulfate) 9056A	1	04/21/2022 0408	CAW		39113
1		(Sulfide) SM 4500-S2 F-2011	1	04/21/2022 1541	SJL		38889
2		(TOC) 9060A	1	05/03/2022 2116	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	7.4		1.0	0.25	mg/L	1
Nitrate - N		9056A	1.7	H	0.10	0.025	mg/L	2
Sulfate		9056A	12		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	ND		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/26/2022 1426	BWS		39396

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	0.81	J	1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 0.293 - 0.328

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)
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Description: MW-17

Matrix: Aqueous

Date Sampled: 04/19/2022 0905

Date Received: 04/19/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	1	04/26/2022 1426	BWS		39396		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		103	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D (SIM)	1	04/21/2022 1759	JWO		38936		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1	

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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Surrogate	Q	Run 1	Acceptance
		% Recovery	Limits
1,2-Dichloroethane-d4		110	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/20/2022 1443	JM1		38745

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	ND		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	(Alkalinity @)	SM 2320B-2011	1	04/20/2022 2347	TAD		38960
1		(Chloride) 9056A	1	04/21/2022 0427	CAW		39114
2		(Nitrate - N) 9056A	5	04/22/2022 0558	CAW		39106
1		(Sulfate) 9056A	1	04/21/2022 0427	CAW		39113
1		(Sulfide) SM 4500-S2 F-2011	1	04/21/2022 1541	SJL		38889
2		(TOC) 9060A	1	05/03/2022 2140	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	3.3		1.0	0.25	mg/L	1
Nitrate - N		9056A	0.042	HJ	0.10	0.025	mg/L	2
Sulfate		9056A	9.5		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	0.54	J	1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/26/2022 1451	BWS		39396

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 0.508 - 0.551

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/26/2022 1451	BWS		39396

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		100	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D (SIM)	1	04/21/2022 1824	JWO		38936

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Surrogate	Q	Run 1	Acceptance
		% Recovery	Limits
1,2-Dichloroethane-d4		110	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/20/2022 1459	JM1		38745

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	8.0	J	10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Description: MW-2D

Matrix: Aqueous

Date Sampled: 04/19/2022 1130

Date Received: 04/19/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	(Alkalinity @)	SM 2320B-2011	1	04/20/2022 2353	TAD		38960
1		(Chloride) 9056A	1	04/21/2022 0446	CAW		39114
2		(Nitrate - N) 9056A	5	04/22/2022 0617	CAW		39106
1		(Sulfate) 9056A	1	04/21/2022 0446	CAW		39113
1		(Sulfide) SM 4500-S2 F-2011	1	04/22/2022 1349	SJL		39182
2		(TOC) 9060A	1	05/03/2022 2203	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	2.9		1.0	0.25	mg/L	1
Nitrate - N		9056A	0.16	H	0.10	0.025	mg/L	2
Sulfate		9056A	0.92	J	1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	ND		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/26/2022 1517	BWS		39396

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	10	J	20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 0.229 - 0.257

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Description: MW-2D

Matrix: Aqueous

Date Sampled: 04/19/2022 1130

Date Received: 04/19/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	1	04/26/2022 1517	BWS		39396		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		115	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D (SIM)	1	04/21/2022 2346	SDC		39016		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1	

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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Surrogate	Q	Run 1	Acceptance
		% Recovery	Limits
1,2-Dichloroethane-d4		114	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/20/2022 1515	JM1		38745

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	ND		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Description: MW-2

Matrix: Aqueous

Date Sampled: 04/19/2022 1230

Date Received: 04/19/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	(Alkalinity @)	SM 2320B-2011	1	04/21/2022 0001	TAD		38960
1		(Chloride) 9056A	1	04/21/2022 0505	CAW		39114
1		(Nitrate - N) 9056A	1	04/21/2022 0505	CAW		39108
1		(Sulfate) 9056A	1	04/21/2022 0505	CAW		39113
1		(Sulfide) SM 4500-S2 F-2011	1	04/22/2022 1349	SJL		39182
2		(TOC) 9060A	1	05/03/2022 2314	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	6.1		1.0	0.25	mg/L	1
Nitrate - N		9056A	1.2		0.020	0.0050	mg/L	1
Sulfate		9056A	3.7		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	ND		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/26/2022 1542	BWS		39396

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 0.251 - 0.291

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Description: MW-2

Matrix: Aqueous

Date Sampled: 04/19/2022 1230

Date Received: 04/19/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	1	04/26/2022 1542	BWS		39396		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1	
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
Bromofluorobenzene		95	70-130						
1,2-Dichloroethane-d4		114	70-130						
Toluene-d8		99	70-130						

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D (SIM)	1	04/22/2022 0010	SDC		39016		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1	

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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Surrogate	Q	Run 1	Acceptance
		% Recovery	Limits
1,2-Dichloroethane-d4		106	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/20/2022 1531	JM1		38745

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	ND		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Description: MW-1D

Matrix: Aqueous

Date Sampled: 04/19/2022 1420

Date Received: 04/19/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	(Alkalinity @)	SM 2320B-2011	1	04/21/2022 0006	TAD		38960
1		(Chloride) 9056A	1	04/21/2022 0523	CAW		39114
4		(Nitrate - N) 9056A	5	04/25/2022 2144	YCB		39834
1		(Sulfate) 9056A	1	04/21/2022 0523	CAW		39113
1		(Sulfide) SM 4500-S2 F-2011	1	04/22/2022 1349	SJL		39182
2		(TOC) 9060A	1	05/03/2022 2338	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	1.8		1.0	0.25	mg/L	1
Nitrate - N		9056A	ND	H	0.10	0.025	mg/L	4
Sulfate		9056A	0.39	J	1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND	S	1.0	1.0	mg/L	1
TOC		9060A	ND		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/26/2022 1607	BWS		39396

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 0.252 - 0.277

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	1	04/26/2022 1607	BWS		39396		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	1.1		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260D	86		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260D	14		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1	
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
Bromofluorobenzene		91	70-130						
1,2-Dichloroethane-d4		114	70-130						
Toluene-d8		98	70-130						

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D (SIM)	1	04/22/2022 0034	SDC		39016		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1	

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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Surrogate	Run 1		Acceptance Limits
	Q	% Recovery	
1,2-Dichloroethane-d4		110	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/20/2022 1547	JM1		38745

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	3.6	J	10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Description: MW-1

Matrix: Aqueous

Date Sampled: 04/19/2022 1520

Date Received: 04/19/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	(Alkalinity @)	SM 2320B-2011	1	04/21/2022 0012	TAD		38960
1		(Chloride) 9056A	1	04/21/2022 0542	CAW		39114
2		(Nitrate - N) 9056A	5	04/22/2022 0751	CAW		39106
1		(Sulfate) 9056A	1	04/21/2022 0542	CAW		39113
1		(Sulfide) SM 4500-S2 F-2011	1	04/22/2022 1349	SJL		39182
2		(TOC) 9060A	1	05/04/2022 0001	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	16		1.0	0.25	mg/L	1
Nitrate - N		9056A	ND	H	0.10	0.025	mg/L	2
Sulfate		9056A	3.3		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	1.3		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	10	04/26/2022 1813	BWS		39396

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		200	50	ug/L	1
Benzene	71-43-2	8260D	ND		10	4.0	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		10	4.0	ug/L	1
Bromoform	75-25-2	8260D	ND		10	4.0	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		20	4.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		100	20	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		10	4.0	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		10	4.0	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		10	4.0	ug/L	1
Chloroethane	75-00-3	8260D	ND		20	4.0	ug/L	1
Chloroform	67-66-3	8260D	ND		10	4.0	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		10	5.0	ug/L	1
Cyclohexane	110-82-7	8260D	ND		10	4.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		10	4.0	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		10	4.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		10	4.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		10	4.0	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		10	4.0	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		10	4.0	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		20	6.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		10	4.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		10	4.0	ug/L	1

TOC Range: 1.271 - 1.311

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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Description: MW-1

Matrix: Aqueous

Date Sampled: 04/19/2022 1520

Date Received: 04/19/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	10	04/26/2022 1813	BWS		39396		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1-Dichloroethene	75-35-4	8260D	ND		10	4.0	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	1400		10	4.0	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	5.0	J	10	4.0	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		10	4.0	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		10	4.0	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		10	4.0	ug/L	1	
Ethylbenzene	100-41-4	8260D	100		10	4.0	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		100	20	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		10	4.0	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		10	4.0	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		10	4.0	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		100	20	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		50	4.0	ug/L	1	
Methylene chloride	75-09-2	8260D	7.2	J	10	4.0	ug/L	1	
Styrene	100-42-5	8260D	ND		10	4.1	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		10	4.0	ug/L	1	
Tetrachloroethene	127-18-4	8260D	ND		10	4.0	ug/L	1	
Toluene	108-88-3	8260D	ND		10	4.0	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		10	4.2	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		10	4.0	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260D	ND		10	4.0	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260D	ND		10	4.0	ug/L	1	
Trichloroethene	79-01-6	8260D	ND		10	4.0	ug/L	1	
Trichlorofluoromethane	75-69-4	8260D	ND		10	4.0	ug/L	1	
Vinyl chloride	75-01-4	8260D	55		10	4.0	ug/L	1	
Xylenes (total)	1330-20-7	8260D	570		10	4.0	ug/L	1	
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
Bromofluorobenzene		102	70-130						
1,2-Dichloroethane-d4		111	70-130						
Toluene-d8		101	70-130						

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D (SIM)	1	04/22/2022 0059	SDC		39016		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1	

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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Surrogate	Q	Run 1	Acceptance
		% Recovery	Limits
1,2-Dichloroethane-d4		109	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/20/2022 1603	JM1		38745

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	13		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	470		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Description: TB-01

Matrix: Aqueous

Date Sampled: 04/19/2022

Date Received: 04/19/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	5030B	8260D	1	04/26/2022 1310	BWS		39396			
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run		
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1		
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1		
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1		
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1		
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1		
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1		
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1		
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1		
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1		
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1		
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1		
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1		
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1		
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1		
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1		
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1		
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1		
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1		
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1		
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1		
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1		
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1		
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1		
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1		
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1		
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1		
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1		
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1		
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1		
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1		
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1		
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1		
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1		
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1		
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1		
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1		
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1		
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1		
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1		
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1		

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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Description: TB-01

Matrix: Aqueous

Date Sampled: 04/19/2022

Date Received: 04/19/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	5030B	8260D	1	04/26/2022 1310	BWS		39396			
Parameter		CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260D	ND		1.0	0.42	ug/L	1	
1,2,4-Trichlorobenzene		120-82-1	8260D	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane		71-55-6	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane		79-00-5	8260D	ND		1.0	0.40	ug/L	1	
Trichloroethene		79-01-6	8260D	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane		75-69-4	8260D	ND		1.0	0.40	ug/L	1	
Vinyl chloride		75-01-4	8260D	ND		1.0	0.40	ug/L	1	
Xylenes (total)		1330-20-7	8260D	ND		1.0	0.40	ug/L	1	
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
Bromofluorobenzene		103	70-130							
1,2-Dichloroethane-d4		115	70-130							
Toluene-d8		102	70-130							

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	5030B	8260D	5	04/26/2022 1657	BWS		39396			
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run		
Acetone	67-64-1	8260D	ND		100	25	ug/L	1		
Benzene	71-43-2	8260D	ND		5.0	2.0	ug/L	1		
Bromodichloromethane	75-27-4	8260D	ND		5.0	2.0	ug/L	1		
Bromoform	75-25-2	8260D	ND		5.0	2.0	ug/L	1		
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		10	2.0	ug/L	1		
2-Butanone (MEK)	78-93-3	8260D	ND		50	10	ug/L	1		
Carbon disulfide	75-15-0	8260D	ND		5.0	2.0	ug/L	1		
Carbon tetrachloride	56-23-5	8260D	ND		5.0	2.0	ug/L	1		
Chlorobenzene	108-90-7	8260D	ND		5.0	2.0	ug/L	1		
Chloroethane	75-00-3	8260D	ND		10	2.0	ug/L	1		
Chloroform	67-66-3	8260D	ND		5.0	2.0	ug/L	1		
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		5.0	2.5	ug/L	1		
Cyclohexane	110-82-7	8260D	ND		5.0	2.0	ug/L	1		
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		5.0	2.0	ug/L	1		
Dibromochloromethane	124-48-1	8260D	ND		5.0	2.0	ug/L	1		
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		5.0	2.0	ug/L	1		
1,2-Dichlorobenzene	95-50-1	8260D	ND		5.0	2.0	ug/L	1		
1,3-Dichlorobenzene	541-73-1	8260D	ND		5.0	2.0	ug/L	1		
1,4-Dichlorobenzene	106-46-7	8260D	ND		5.0	2.0	ug/L	1		
Dichlorodifluoromethane	75-71-8	8260D	ND		10	3.0	ug/L	1		
1,1-Dichloroethane	75-34-3	8260D	22		5.0	2.0	ug/L	1		
1,2-Dichloroethane	107-06-2	8260D	6.4		5.0	2.0	ug/L	1		
1,1-Dichloroethene	75-35-4	8260D	17		5.0	2.0	ug/L	1		
cis-1,2-Dichloroethene	156-59-2	8260D	420		5.0	2.0	ug/L	1		
trans-1,2-Dichloroethene	156-60-5	8260D	12		5.0	2.0	ug/L	1		
1,2-Dichloropropane	78-87-5	8260D	ND		5.0	2.0	ug/L	1		
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		5.0	2.0	ug/L	1		
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		5.0	2.0	ug/L	1		
Ethylbenzene	100-41-4	8260D	ND		5.0	2.0	ug/L	1		
2-Hexanone	591-78-6	8260D	ND		50	10	ug/L	1		
Isopropylbenzene	98-82-8	8260D	ND		5.0	2.0	ug/L	1		
Methyl acetate	79-20-9	8260D	ND		5.0	2.0	ug/L	1		
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		5.0	2.0	ug/L	1		
4-Methyl-2-pentanone	108-10-1	8260D	ND		50	10	ug/L	1		
Methylcyclohexane	108-87-2	8260D	ND		25	2.0	ug/L	1		
Methylene chloride	75-09-2	8260D	5.5		5.0	2.0	ug/L	1		
Styrene	100-42-5	8260D	ND		5.0	2.1	ug/L	1		
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		5.0	2.0	ug/L	1		
Tetrachloroethene	127-18-4	8260D	60		5.0	2.0	ug/L	1		
Toluene	108-88-3	8260D	ND		5.0	2.0	ug/L	1		

LOQ = Limit of Quantitation

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E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

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Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	5030B	8260D	5	04/26/2022 1657	BWS		39396			
Parameter		CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260D	ND		5.0	2.1	ug/L	1	
1,2,4-Trichlorobenzene		120-82-1	8260D	ND		5.0	2.0	ug/L	1	
1,1,1-Trichloroethane		71-55-6	8260D	ND		5.0	2.0	ug/L	1	
1,1,2-Trichloroethane		79-00-5	8260D	30		5.0	2.0	ug/L	1	
Trichloroethene		79-01-6	8260D	97		5.0	2.0	ug/L	1	
Trichlorofluoromethane		75-69-4	8260D	ND		5.0	2.0	ug/L	1	
Vinyl chloride		75-01-4	8260D	11		5.0	2.0	ug/L	1	
Xylenes (total)		1330-20-7	8260D	ND		5.0	2.0	ug/L	1	
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
Bromofluorobenzene		94	70-130							
1,2-Dichloroethane-d4		114	70-130							
Toluene-d8		101	70-130							

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	5030B	8260D (SIM)	1	04/22/2022 0123	SDC		39016			
Parameter		CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane		123-91-1	8260D (SIM)	51		3.0	1.0	ug/L	1	
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
1,2-Dichloroethane-d4		106	40-170							

LOQ = Limit of Quantitation

B = Detected in the method blank

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DL = Detection Limit

Q = Surrogate failure

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P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

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Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch									
1	5030B	8260D	5	04/26/2022 1722	BWS		39396	Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
								Acetone	67-64-1	8260D	ND		100	25	ug/L	1
								Benzene	71-43-2	8260D	ND		5.0	2.0	ug/L	1
								Bromodichloromethane	75-27-4	8260D	ND		5.0	2.0	ug/L	1
								Bromoform	75-25-2	8260D	ND		5.0	2.0	ug/L	1
								Bromomethane (Methyl bromide)	74-83-9	8260D	ND		10	2.0	ug/L	1
								2-Butanone (MEK)	78-93-3	8260D	ND		50	10	ug/L	1
								Carbon disulfide	75-15-0	8260D	ND		5.0	2.0	ug/L	1
								Carbon tetrachloride	56-23-5	8260D	ND		5.0	2.0	ug/L	1
								Chlorobenzene	108-90-7	8260D	ND		5.0	2.0	ug/L	1
								Chloroethane	75-00-3	8260D	ND		10	2.0	ug/L	1
								Chloroform	67-66-3	8260D	ND		5.0	2.0	ug/L	1
								Chloromethane (Methyl chloride)	74-87-3	8260D	ND		5.0	2.5	ug/L	1
								Cyclohexane	110-82-7	8260D	ND		5.0	2.0	ug/L	1
								1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		5.0	2.0	ug/L	1
								Dibromochloromethane	124-48-1	8260D	ND		5.0	2.0	ug/L	1
								1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		5.0	2.0	ug/L	1
								1,2-Dichlorobenzene	95-50-1	8260D	ND		5.0	2.0	ug/L	1
								1,3-Dichlorobenzene	541-73-1	8260D	ND		5.0	2.0	ug/L	1
								1,4-Dichlorobenzene	106-46-7	8260D	ND		5.0	2.0	ug/L	1
								Dichlorodifluoromethane	75-71-8	8260D	ND		10	3.0	ug/L	1
								1,1-Dichloroethane	75-34-3	8260D	24		5.0	2.0	ug/L	1
								1,2-Dichloroethane	107-06-2	8260D	6.7		5.0	2.0	ug/L	1
								1,1-Dichloroethene	75-35-4	8260D	22		5.0	2.0	ug/L	1
								cis-1,2-Dichloroethene	156-59-2	8260D	430		5.0	2.0	ug/L	1
								trans-1,2-Dichloroethene	156-60-5	8260D	13		5.0	2.0	ug/L	1
								1,2-Dichloropropane	78-87-5	8260D	ND		5.0	2.0	ug/L	1
								cis-1,3-Dichloropropene	10061-01-5	8260D	ND		5.0	2.0	ug/L	1
								trans-1,3-Dichloropropene	10061-02-6	8260D	ND		5.0	2.0	ug/L	1
								Ethylbenzene	100-41-4	8260D	ND		5.0	2.0	ug/L	1
								2-Hexanone	591-78-6	8260D	ND		50	10	ug/L	1
								Isopropylbenzene	98-82-8	8260D	ND		5.0	2.0	ug/L	1
								Methyl acetate	79-20-9	8260D	ND		5.0	2.0	ug/L	1
								Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		5.0	2.0	ug/L	1
								4-Methyl-2-pentanone	108-10-1	8260D	ND		50	10	ug/L	1
								Methylcyclohexane	108-87-2	8260D	ND		25	2.0	ug/L	1
								Methylene chloride	75-09-2	8260D	7.4		5.0	2.0	ug/L	1
								Styrene	100-42-5	8260D	ND		5.0	2.1	ug/L	1
								1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		5.0	2.0	ug/L	1
								Tetrachloroethene	127-18-4	8260D	73		5.0	2.0	ug/L	1
								Toluene	108-88-3	8260D	ND		5.0	2.0	ug/L	1

LOQ = Limit of Quantitation

B = Detected in the method blank

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DL = Detection Limit

Q = Surrogate failure

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Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	5030B	8260D	5	04/26/2022 1722	BWS		39396			
Parameter		CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260D	ND		5.0	2.1	ug/L	1	
1,2,4-Trichlorobenzene		120-82-1	8260D	ND		5.0	2.0	ug/L	1	
1,1,1-Trichloroethane		71-55-6	8260D	ND		5.0	2.0	ug/L	1	
1,1,2-Trichloroethane		79-00-5	8260D	31		5.0	2.0	ug/L	1	
Trichloroethene		79-01-6	8260D	120		5.0	2.0	ug/L	1	
Trichlorofluoromethane		75-69-4	8260D	ND		5.0	2.0	ug/L	1	
Vinyl chloride		75-01-4	8260D	14		5.0	2.0	ug/L	1	
Xylenes (total)		1330-20-7	8260D	ND		5.0	2.0	ug/L	1	
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
Bromofluorobenzene		99	70-130							
1,2-Dichloroethane-d4		114	70-130							
Toluene-d8		102	70-130							

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	5030B	8260D (SIM)	1	04/22/2022 0147	SDC		39016			
Parameter		CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane		123-91-1	8260D (SIM)	52		3.0	1.0	ug/L	1	
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
1,2-Dichloroethane-d4		105	40-170							

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch									
1	5030B	8260D	5	04/26/2022 1748	BWS		39396	Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
								Acetone	67-64-1	8260D	ND		100	25	ug/L	1
								Benzene	71-43-2	8260D	ND		5.0	2.0	ug/L	1
								Bromodichloromethane	75-27-4	8260D	ND		5.0	2.0	ug/L	1
								Bromoform	75-25-2	8260D	ND		5.0	2.0	ug/L	1
								Bromomethane (Methyl bromide)	74-83-9	8260D	ND		10	2.0	ug/L	1
								2-Butanone (MEK)	78-93-3	8260D	ND		50	10	ug/L	1
								Carbon disulfide	75-15-0	8260D	ND		5.0	2.0	ug/L	1
								Carbon tetrachloride	56-23-5	8260D	ND		5.0	2.0	ug/L	1
								Chlorobenzene	108-90-7	8260D	ND		5.0	2.0	ug/L	1
								Chloroethane	75-00-3	8260D	ND		10	2.0	ug/L	1
								Chloroform	67-66-3	8260D	ND		5.0	2.0	ug/L	1
								Chloromethane (Methyl chloride)	74-87-3	8260D	ND		5.0	2.5	ug/L	1
								Cyclohexane	110-82-7	8260D	ND		5.0	2.0	ug/L	1
								1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		5.0	2.0	ug/L	1
								Dibromochloromethane	124-48-1	8260D	ND		5.0	2.0	ug/L	1
								1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		5.0	2.0	ug/L	1
								1,2-Dichlorobenzene	95-50-1	8260D	ND		5.0	2.0	ug/L	1
								1,3-Dichlorobenzene	541-73-1	8260D	ND		5.0	2.0	ug/L	1
								1,4-Dichlorobenzene	106-46-7	8260D	ND		5.0	2.0	ug/L	1
								Dichlorodifluoromethane	75-71-8	8260D	ND		10	3.0	ug/L	1
								1,1-Dichloroethane	75-34-3	8260D	25		5.0	2.0	ug/L	1
								1,2-Dichloroethane	107-06-2	8260D	7.0		5.0	2.0	ug/L	1
								1,1-Dichloroethene	75-35-4	8260D	23		5.0	2.0	ug/L	1
								cis-1,2-Dichloroethene	156-59-2	8260D	460		5.0	2.0	ug/L	1
								trans-1,2-Dichloroethene	156-60-5	8260D	14		5.0	2.0	ug/L	1
								1,2-Dichloropropane	78-87-5	8260D	ND		5.0	2.0	ug/L	1
								cis-1,3-Dichloropropene	10061-01-5	8260D	ND		5.0	2.0	ug/L	1
								trans-1,3-Dichloropropene	10061-02-6	8260D	ND		5.0	2.0	ug/L	1
								Ethylbenzene	100-41-4	8260D	ND		5.0	2.0	ug/L	1
								2-Hexanone	591-78-6	8260D	ND		50	10	ug/L	1
								Isopropylbenzene	98-82-8	8260D	ND		5.0	2.0	ug/L	1
								Methyl acetate	79-20-9	8260D	ND		5.0	2.0	ug/L	1
								Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		5.0	2.0	ug/L	1
								4-Methyl-2-pentanone	108-10-1	8260D	ND		50	10	ug/L	1
								Methylcyclohexane	108-87-2	8260D	ND		25	2.0	ug/L	1
								Methylene chloride	75-09-2	8260D	7.6		5.0	2.0	ug/L	1
								Styrene	100-42-5	8260D	ND		5.0	2.1	ug/L	1
								1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		5.0	2.0	ug/L	1
								Tetrachloroethene	127-18-4	8260D	79		5.0	2.0	ug/L	1
								Toluene	108-88-3	8260D	ND		5.0	2.0	ug/L	1

LOQ = Limit of Quantitation

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DL = Detection Limit

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Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	5030B	8260D	5	04/26/2022 1748	BWS		39396			
Parameter		CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260D	ND		5.0	2.1	ug/L	1	
1,2,4-Trichlorobenzene		120-82-1	8260D	ND		5.0	2.0	ug/L	1	
1,1,1-Trichloroethane		71-55-6	8260D	ND		5.0	2.0	ug/L	1	
1,1,2-Trichloroethane		79-00-5	8260D	32		5.0	2.0	ug/L	1	
Trichloroethene		79-01-6	8260D	120		5.0	2.0	ug/L	1	
Trichlorofluoromethane		75-69-4	8260D	ND		5.0	2.0	ug/L	1	
Vinyl chloride		75-01-4	8260D	14		5.0	2.0	ug/L	1	
Xylenes (total)		1330-20-7	8260D	ND		5.0	2.0	ug/L	1	
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
Bromofluorobenzene		100	70-130							
1,2-Dichloroethane-d4		114	70-130							
Toluene-d8		103	70-130							

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	5030B	8260D (SIM)	1	04/22/2022 0211	SDC		39016			
Parameter		CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane		123-91-1	8260D (SIM)	49		3.0	1.0	ug/L	1	
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
1,2-Dichloroethane-d4		112	40-170							

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

QC Summary

Inorganic non-metals - MB

Sample ID: XQ38889-001

Matrix: Aqueous

Batch: 38889

Analytical Method: SM 4500-S2 F-2011

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Sulfide	ND		1	1.0	1.0	mg/L	04/21/2022 1541

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - LCS

Sample ID: XQ38889-002

Matrix: Aqueous

Batch: 38889

Analytical Method: SM 4500-S2 F-2011

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Sulfide	10	10		1	100	80-120	04/21/2022 1541

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - LCS

Sample ID: XQ38960-002

Matrix: Aqueous

Batch: 38960

Analytical Method: SM 2320B-2011

Parameter	Spike Amount (mg CaCO3/L)	Result (mg CaCO3/L) Q	Dil	% Rec	%Rec Limit	Analysis Date
Alkalinity @ pH 4.5 su	100	100	1	104	90-110	04/20/2022 2336

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - Duplicate

Sample ID: XD19085-003DU

Matrix: Aqueous

Batch: 38960

Analytical Method: SM 2320B-2011

Parameter	Sample Amount (mg CaCO3/L)	Result (mg CaCO3/L) Q	Dil	% RPD	%RPD Limit	Analysis Date
Alkalinity @ pH 4.5 su	ND	ND	1	0.00	20	04/20/2022 2358

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MB

Sample ID: XQ39106-001

Matrix: Aqueous

Batch: 39106

Analytical Method: 9056A

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Nitrate - N	ND		1	0.020	0.0050	mg/L	04/22/2022 0114

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - LCS

Sample ID: XQ39106-002

Matrix: Aqueous

Batch: 39106

Analytical Method: 9056A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Nitrate - N	0.80	0.81		1	101	80-120	04/22/2022 0248

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MS

Sample ID: XD19085-004MS

Matrix: Aqueous

Batch: 39106

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Nitrate - N	1.4	0.40	1.8		1	95	80-120	04/22/2022 0654

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MSD

Sample ID: XD19085-004MD

Matrix: Aqueous

Batch: 39106

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Nitrate - N	1.4	0.40	1.8		1	101	1.4	80-120	20	04/22/2022 0713

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MS

Sample ID: XD19085-005MS

Matrix: Aqueous

Batch: 39106

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Nitrate - N	0.011	0.40	0.41		1	101	80-120	04/22/2022 1119

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MSD

Sample ID: XD19085-005MD

Matrix: Aqueous

Batch: 39106

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Nitrate - N	0.011	0.40	0.42		1	103	1.7	80-120	20	04/22/2022 1138

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MB

Sample ID: XQ39108-001

Matrix: Aqueous

Batch: 39108

Analytical Method: 9056A

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Nitrate - N	ND		1	0.020	0.0050	mg/L	04/20/2022 2149

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - LCS

Sample ID: XQ39108-002

Matrix: Aqueous

Batch: 39108

Analytical Method: 9056A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Nitrate - N	0.80	0.72		1	90	80-120	04/21/2022 0040

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MB

Sample ID: XQ39113-001

Matrix: Aqueous

Batch: 39113

Analytical Method: 9056A

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Sulfate	ND		1	1.0	0.25	mg/L	04/20/2022 2149

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - LCS

Sample ID: XQ39113-002

Matrix: Aqueous

Batch: 39113

Analytical Method: 9056A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Sulfate	20	18		1	89	80-120	04/20/2022 1303

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - LCSD

Sample ID: XQ39113-003

Matrix: Aqueous

Batch: 39113

Analytical Method: 9056A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Sulfate	20	18		1	89	0.13	80-120	20	04/21/2022 0040

LOQ = Limit of Quantitation

DL = Detection Limit

ND = Not detected at or above the DL

J = Estimated result < LOQ and \geq DL

* = RSD is out of criteria

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

+ = RPD is out of criteria

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

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Inorganic non-metals - MB

Sample ID: XQ39114-001

Matrix: Aqueous

Batch: 39114

Analytical Method: 9056A

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Chloride	ND		1	1.0	0.25	mg/L	04/20/2022 2149

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - LCS

Sample ID: XQ39114-002

Matrix: Aqueous

Batch: 39114

Analytical Method: 9056A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Chloride	20	18		1	90	80-120	04/21/2022 0040

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MB

Sample ID: XQ39182-001

Matrix: Aqueous

Batch: 39182

Analytical Method: SM 4500-S2 F-2011

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Sulfide	ND		1	1.0	1.0	mg/L	04/22/2022 1349

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - LCS

Sample ID: XQ39182-002

Matrix: Aqueous

Batch: 39182

Analytical Method: SM 4500-S2 F-2011

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Sulfide	10	9.9		1	99	80-120	04/22/2022 1349

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MS

Sample ID: XD19085-005MS

Matrix: Aqueous

Batch: 39182

Analytical Method: SM 4500-S2 F-2011

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Sulfide	ND	10	6.5	N	1	65	70-130	04/22/2022 1349

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MSD

Sample ID: XD19085-005MD

Matrix: Aqueous

Batch: 39182

Analytical Method: SM 4500-S2 F-2011

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Sulfide	ND	10	6.7	N	1	67	3.8	70-130	20	04/22/2022 1349

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MB

Sample ID: XQ39834-001

Matrix: Aqueous

Batch: 39834

Analytical Method: 9056A

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Nitrate - N	ND		1	0.020	0.0050	mg/L	04/25/2022 1118

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - LCS

Sample ID: XQ39834-002

Matrix: Aqueous

Batch: 39834

Analytical Method: 9056A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Nitrate - N	0.80	0.80		1	100	80-120	04/25/2022 1304

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MB

Sample ID: XQ40276-001

Matrix: Aqueous

Batch: 40276

Analytical Method: 9060A

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
TOC	ND		1	1.0	0.42	mg/L	05/03/2022 2029

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - LCS

Sample ID: XQ40276-002

Matrix: Aqueous

Batch: 40276

Analytical Method: 9060A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
TOC	20	19		1	94	90-110	05/03/2022 2053

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MS

Sample ID: XD19085-003MS

Matrix: Aqueous

Batch: 40276

Analytical Method: 9060A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
TOC	ND	50	47		1	95	70-130	05/03/2022 2226

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MSD

Sample ID: XD19085-003MD

Matrix: Aqueous

Batch: 40276

Analytical Method: 9060A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
TOC	ND	50	46		1	92	3.2	70-130	20	05/03/2022 2250

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS (SIM) - MB

Sample ID: XQ38936-001

Matrix: Aqueous

Batch: 38936

Prep Method: 5030B

Analytical Method: 8260D (SIM)

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
1,4-Dioxane	ND		1	3.0	1.0	ug/L	04/21/2022 1133
Surrogate	Q	% Rec	Acceptance Limit				
1,2-Dichloroethane-d4		103	40-170				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS (SIM) - LCS

Sample ID: XQ38936-002

Matrix: Aqueous

Batch: 38936

Prep Method: 5030B

Analytical Method: 8260D (SIM)

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
1,4-Dioxane	50	44		1	89	70-130	04/21/2022 0924
Surrogate	Q	% Rec	Acceptance Limit				
1,2-Dichloroethane-d4	106	40-170					

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS (SIM) - MB

Sample ID: XQ39016-001

Matrix: Aqueous

Batch: 39016

Prep Method: 5030B

Analytical Method: 8260D (SIM)

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
1,4-Dioxane	ND		1	3.0	1.0	ug/L	04/21/2022 2226
Surrogate	Q	% Rec	Acceptance Limit				
1,2-Dichloroethane-d4		106	40-170				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS (SIM) - LCS

Sample ID: XQ39016-002

Matrix: Aqueous

Batch: 39016

Prep Method: 5030B

Analytical Method: 8260D (SIM)

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
1,4-Dioxane	50	44		1	88	70-130	04/21/2022 2059
Surrogate	Q	% Rec	Acceptance Limit				
1,2-Dichloroethane-d4		119					

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS (SIM) - LCSD

Sample ID: XQ39016-003

Matrix: Aqueous

Batch: 39016

Prep Method: 5030B

Analytical Method: 8260D (SIM)

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
1,4-Dioxane	50	46		1	92	4.6	70-130	20	04/21/2022 2137
Surrogate	Q	% Rec	Acceptance Limit						
1,2-Dichloroethane-d4		114							

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ39396-001

Matrix: Aqueous

Batch: 39396

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Acetone	ND		1	20	5.0	ug/L	04/26/2022 1030
Benzene	ND		1	1.0	0.40	ug/L	04/26/2022 1030
Bromodichloromethane	ND		1	1.0	0.40	ug/L	04/26/2022 1030
Bromoform	ND		1	1.0	0.40	ug/L	04/26/2022 1030
Bromomethane (Methyl bromide)	ND		1	2.0	0.40	ug/L	04/26/2022 1030
2-Butanone (MEK)	ND		1	10	2.0	ug/L	04/26/2022 1030
Carbon disulfide	ND		1	1.0	0.40	ug/L	04/26/2022 1030
Carbon tetrachloride	ND		1	1.0	0.40	ug/L	04/26/2022 1030
Chlorobenzene	ND		1	1.0	0.40	ug/L	04/26/2022 1030
Chloroethane	ND		1	2.0	0.40	ug/L	04/26/2022 1030
Chloroform	ND		1	1.0	0.40	ug/L	04/26/2022 1030
Chloromethane (Methyl chloride)	ND		1	1.0	0.50	ug/L	04/26/2022 1030
Cyclohexane	ND		1	1.0	0.40	ug/L	04/26/2022 1030
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	1.0	0.40	ug/L	04/26/2022 1030
Dibromochloromethane	ND		1	1.0	0.40	ug/L	04/26/2022 1030
1,2-Dibromoethane (EDB)	ND		1	1.0	0.40	ug/L	04/26/2022 1030
1,2-Dichlorobenzene	ND		1	1.0	0.40	ug/L	04/26/2022 1030
1,3-Dichlorobenzene	ND		1	1.0	0.40	ug/L	04/26/2022 1030
1,4-Dichlorobenzene	ND		1	1.0	0.40	ug/L	04/26/2022 1030
Dichlorodifluoromethane	ND		1	2.0	0.60	ug/L	04/26/2022 1030
1,1-Dichloroethane	ND		1	1.0	0.40	ug/L	04/26/2022 1030
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	04/26/2022 1030
1,1-Dichloroethene	ND		1	1.0	0.40	ug/L	04/26/2022 1030
cis-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	04/26/2022 1030
trans-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	04/26/2022 1030
1,2-Dichloropropane	ND		1	1.0	0.40	ug/L	04/26/2022 1030
cis-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	04/26/2022 1030
trans-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	04/26/2022 1030
Ethylbenzene	ND		1	1.0	0.40	ug/L	04/26/2022 1030
2-Hexanone	ND		1	10	2.0	ug/L	04/26/2022 1030
Isopropylbenzene	ND		1	1.0	0.40	ug/L	04/26/2022 1030
Methyl acetate	ND		1	1.0	0.40	ug/L	04/26/2022 1030
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	04/26/2022 1030
4-Methyl-2-pentanone	ND		1	10	2.0	ug/L	04/26/2022 1030
Methylcyclohexane	ND		1	5.0	0.40	ug/L	04/26/2022 1030
Methylene chloride	ND		1	1.0	0.40	ug/L	04/26/2022 1030
Styrene	ND		1	1.0	0.41	ug/L	04/26/2022 1030
1,1,2,2-Tetrachloroethane	ND		1	1.0	0.40	ug/L	04/26/2022 1030
Tetrachloroethene	ND		1	1.0	0.40	ug/L	04/26/2022 1030
Toluene	ND		1	1.0	0.40	ug/L	04/26/2022 1030
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	1.0	0.42	ug/L	04/26/2022 1030
1,2,4-Trichlorobenzene	ND		1	1.0	0.40	ug/L	04/26/2022 1030
1,1,1-Trichloroethane	ND		1	1.0	0.40	ug/L	04/26/2022 1030
1,1,2-Trichloroethane	ND		1	1.0	0.40	ug/L	04/26/2022 1030

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ39396-001

Matrix: Aqueous

Batch: 39396

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Trichloroethene	ND		1	1.0	0.40	ug/L	04/26/2022 1030
Trichlorofluoromethane	ND		1	1.0	0.40	ug/L	04/26/2022 1030
Vinyl chloride	ND		1	1.0	0.40	ug/L	04/26/2022 1030
Xylenes (total)	ND		1	1.0	0.40	ug/L	04/26/2022 1030
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		98	70-130				
1,2-Dichloroethane-d4		111	70-130				
Toluene-d8		101	70-130				

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Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ39396-002

Matrix: Aqueous

Batch: 39396

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Acetone	100	73		1	73	60-140	04/26/2022 0940
Benzene	50	53		1	105	70-130	04/26/2022 0940
Bromodichloromethane	50	54		1	108	70-130	04/26/2022 0940
Bromoform	50	57		1	114	70-130	04/26/2022 0940
Bromomethane (Methyl bromide)	50	57		1	113	70-130	04/26/2022 0940
2-Butanone (MEK)	100	87		1	87	70-130	04/26/2022 0940
Carbon disulfide	50	49		1	98	70-130	04/26/2022 0940
Carbon tetrachloride	50	52		1	103	70-130	04/26/2022 0940
Chlorobenzene	50	52		1	105	70-130	04/26/2022 0940
Chloroethane	50	49		1	97	70-130	04/26/2022 0940
Chloroform	50	48		1	97	70-130	04/26/2022 0940
Chloromethane (Methyl chloride)	50	47		1	93	60-140	04/26/2022 0940
Cyclohexane	50	52		1	105	70-130	04/26/2022 0940
1,2-Dibromo-3-chloropropane (DBCP)	50	58		1	115	70-130	04/26/2022 0940
Dibromochloromethane	50	58		1	115	70-130	04/26/2022 0940
1,2-Dibromoethane (EDB)	50	54		1	108	70-130	04/26/2022 0940
1,2-Dichlorobenzene	50	54		1	107	70-130	04/26/2022 0940
1,3-Dichlorobenzene	50	54		1	109	70-130	04/26/2022 0940
1,4-Dichlorobenzene	50	55		1	109	70-130	04/26/2022 0940
Dichlorodifluoromethane	50	49		1	98	60-140	04/26/2022 0940
1,1-Dichloroethane	50	50		1	100	70-130	04/26/2022 0940
1,2-Dichloroethane	50	51		1	101	70-130	04/26/2022 0940
1,1-Dichloroethene	50	49		1	98	70-130	04/26/2022 0940
cis-1,2-Dichloroethene	50	50		1	101	70-130	04/26/2022 0940
trans-1,2-Dichloroethene	50	49		1	98	70-130	04/26/2022 0940
1,2-Dichloropropane	50	53		1	106	70-130	04/26/2022 0940
cis-1,3-Dichloropropene	50	52		1	104	70-130	04/26/2022 0940
trans-1,3-Dichloropropene	50	54		1	108	70-130	04/26/2022 0940
Ethylbenzene	50	56		1	112	70-130	04/26/2022 0940
2-Hexanone	100	110		1	110	70-130	04/26/2022 0940
Isopropylbenzene	50	61		1	121	70-130	04/26/2022 0940
Methyl acetate	50	46		1	92	70-130	04/26/2022 0940
Methyl tertiary butyl ether (MTBE)	50	56		1	112	70-130	04/26/2022 0940
4-Methyl-2-pentanone	100	110		1	106	70-130	04/26/2022 0940
Methylcyclohexane	50	55		1	109	70-130	04/26/2022 0940
Methylene chloride	50	50		1	99	70-130	04/26/2022 0940
Styrene	50	53		1	107	70-130	04/26/2022 0940
1,1,2,2-Tetrachloroethane	50	56		1	112	70-130	04/26/2022 0940
Tetrachloroethene	50	54		1	109	70-130	04/26/2022 0940
Toluene	50	57		1	114	70-130	04/26/2022 0940
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	49		1	99	70-130	04/26/2022 0940
1,2,4-Trichlorobenzene	50	56		1	112	70-130	04/26/2022 0940
1,1,1-Trichloroethane	50	52		1	105	70-130	04/26/2022 0940
1,1,2-Trichloroethane	50	53		1	105	70-130	04/26/2022 0940

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ39396-002

Matrix: Aqueous

Batch: 39396

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Trichloroethene	50	49		1	98	70-130	04/26/2022 0940
Trichlorofluoromethane	50	49		1	99	70-130	04/26/2022 0940
Vinyl chloride	50	49		1	97	70-130	04/26/2022 0940
Xylenes (total)	100	120		1	116	70-130	04/26/2022 0940
Surrogate	Q	% Rec			Acceptance Limit		
Bromofluorobenzene		105			70-130		
1,2-Dichloroethane-d4		101			70-130		
Toluene-d8		107			70-130		

LOQ = Limit of Quantitation

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P = The RPD between two GC columns exceeds 40%

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+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MS

Sample ID: XD19085-008MS

Matrix: Aqueous

Batch: 39396

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Acetone	ND	500	340		5	68	60-140	04/26/2022 1904
Benzene	ND	250	260		5	103	70-130	04/26/2022 1904
Bromodichloromethane	ND	250	260		5	103	70-130	04/26/2022 1904
Bromoform	ND	250	280		5	110	70-130	04/26/2022 1904
Bromomethane (Methyl bromide)	ND	250	300		5	118	70-130	04/26/2022 1904
2-Butanone (MEK)	ND	500	420		5	85	70-130	04/26/2022 1904
Carbon disulfide	ND	250	240		5	96	70-130	04/26/2022 1904
Carbon tetrachloride	ND	250	250		5	102	70-130	04/26/2022 1904
Chlorobenzene	ND	250	260		5	105	70-130	04/26/2022 1904
Chloroethane	ND	250	250		5	99	70-130	04/26/2022 1904
Chloroform	ND	250	230		5	93	70-130	04/26/2022 1904
Chloromethane (Methyl chloride)	ND	250	240		5	95	60-140	04/26/2022 1904
Cyclohexane	ND	250	260		5	105	70-130	04/26/2022 1904
1,2-Dibromo-3-chloropropane (DBCP)	ND	250	260		5	102	70-130	04/26/2022 1904
Dibromochloromethane	ND	250	280		5	112	70-130	04/26/2022 1904
1,2-Dibromoethane (EDB)	ND	250	270		5	108	70-130	04/26/2022 1904
1,2-Dichlorobenzene	ND	250	250		5	101	70-130	04/26/2022 1904
1,3-Dichlorobenzene	ND	250	260		5	105	70-130	04/26/2022 1904
1,4-Dichlorobenzene	ND	250	260		5	106	70-130	04/26/2022 1904
Dichlorodifluoromethane	ND	250	260		5	104	60-140	04/26/2022 1904
1,1-Dichloroethane	22	250	260		5	96	70-130	04/26/2022 1904
1,2-Dichloroethane	6.4	250	250		5	97	70-130	04/26/2022 1904
1,1-Dichloroethene	17	250	270		5	101	70-130	04/26/2022 1904
cis-1,2-Dichloroethene	420	250	620		5	81	70-130	04/26/2022 1904
trans-1,2-Dichloroethene	12	250	250		5	96	70-130	04/26/2022 1904
1,2-Dichloropropane	ND	250	260		5	103	70-130	04/26/2022 1904
cis-1,3-Dichloropropene	ND	250	230		5	93	70-130	04/26/2022 1904
trans-1,3-Dichloropropene	ND	250	260		5	102	70-130	04/26/2022 1904
Ethylbenzene	ND	250	290		5	115	70-130	04/26/2022 1904
2-Hexanone	ND	500	560		5	113	70-130	04/26/2022 1904
Isopropylbenzene	ND	250	290		5	116	70-130	04/26/2022 1904
Methyl acetate	ND	250	230		5	94	70-130	04/26/2022 1904
Methyl tertiary butyl ether (MTBE)	ND	250	230		5	93	70-130	04/26/2022 1904
4-Methyl-2-pentanone	ND	500	490		5	98	70-130	04/26/2022 1904
Methylcyclohexane	ND	250	280		5	110	70-130	04/26/2022 1904
Methylene chloride	5.5	250	240		5	95	70-130	04/26/2022 1904
Styrene	ND	250	270		5	109	70-130	04/26/2022 1904
1,1,2,2-Tetrachloroethane	ND	250	260		5	106	70-130	04/26/2022 1904
Tetrachloroethene	60	250	350		5	115	70-130	04/26/2022 1904
Toluene	ND	250	290		5	116	70-130	04/26/2022 1904
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	250	250		5	102	70-130	04/26/2022 1904
1,2,4-Trichlorobenzene	ND	250	230		5	92	70-130	04/26/2022 1904
1,1,1-Trichloroethane	ND	250	250		5	102	70-130	04/26/2022 1904
1,1,2-Trichloroethane	30	250	300		5	107	70-130	04/26/2022 1904

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MS

Sample ID: XD19085-008MS

Matrix: Aqueous

Batch: 39396

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Trichloroethene	97	250	340		5	97	70-130	04/26/2022 1904
Trichlorofluoromethane	ND	250	250		5	98	70-130	04/26/2022 1904
Vinyl chloride	11	250	260		5	102	70-130	04/26/2022 1904
Xylenes (total)	ND	500	570		5	115	70-130	04/26/2022 1904
Surrogate	Q	% Rec	Acceptance Limit					
Bromofluorobenzene		110	70-130					
1,2-Dichloroethane-d4		103	70-130					
Toluene-d8		113	70-130					

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MSD

Sample ID: XD19085-008MD

Matrix: Aqueous

Batch: 39396

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Acetone	ND	500	370		5	74	8.2	60-140	20	04/26/2022 1929
Benzene	ND	250	260		5	104	1.0	70-130	20	04/26/2022 1929
Bromodichloromethane	ND	250	260		5	104	1.7	70-130	20	04/26/2022 1929
Bromoform	ND	250	270		5	110	0.71	70-130	20	04/26/2022 1929
Bromomethane (Methyl bromide)	ND	250	290		5	116	2.1	70-130	20	04/26/2022 1929
2-Butanone (MEK)	ND	500	420		5	85	0.27	70-130	20	04/26/2022 1929
Carbon disulfide	ND	250	240		5	97	1.1	70-130	20	04/26/2022 1929
Carbon tetrachloride	ND	250	260		5	104	2.7	70-130	20	04/26/2022 1929
Chlorobenzene	ND	250	260		5	104	0.79	70-130	20	04/26/2022 1929
Chloroethane	ND	250	250		5	99	0.39	70-130	20	04/26/2022 1929
Chloroform	ND	250	240		5	95	2.5	70-130	20	04/26/2022 1929
Chloromethane (Methyl chloride)	ND	250	240		5	95	0.75	60-140	20	04/26/2022 1929
Cyclohexane	ND	250	270		5	107	1.8	70-130	20	04/26/2022 1929
1,2-Dibromo-3-chloropropane (DBCP)	ND	250	270		5	106	3.9	70-130	20	04/26/2022 1929
Dibromochloromethane	ND	250	280		5	111	1.0	70-130	20	04/26/2022 1929
1,2-Dibromoethane (EDB)	ND	250	270		5	108	0.63	70-130	20	04/26/2022 1929
1,2-Dichlorobenzene	ND	250	250		5	102	0.51	70-130	20	04/26/2022 1929
1,3-Dichlorobenzene	ND	250	260		5	105	0.41	70-130	20	04/26/2022 1929
1,4-Dichlorobenzene	ND	250	260		5	106	0.076	70-130	20	04/26/2022 1929
Dichlorodifluoromethane	ND	250	260		5	104	0.31	60-140	20	04/26/2022 1929
1,1-Dichloroethane	22	250	270		5	98	1.8	70-130	20	04/26/2022 1929
1,2-Dichloroethane	6.4	250	250		5	97	0.61	70-130	20	04/26/2022 1929
1,1-Dichloroethene	17	250	270		5	101	0.40	70-130	20	04/26/2022 1929
cis-1,2-Dichloroethene	420	250	640		5	86	1.9	70-130	20	04/26/2022 1929
trans-1,2-Dichloroethene	12	250	250		5	96	0.53	70-130	20	04/26/2022 1929
1,2-Dichloropropane	ND	250	260		5	104	1.2	70-130	20	04/26/2022 1929
cis-1,3-Dichloropropene	ND	250	240		5	95	2.0	70-130	20	04/26/2022 1929
trans-1,3-Dichloropropene	ND	250	260		5	102	0.11	70-130	20	04/26/2022 1929
Ethylbenzene	ND	250	280		5	113	1.8	70-130	20	04/26/2022 1929
2-Hexanone	ND	500	570		5	114	1.1	70-130	20	04/26/2022 1929
Isopropylbenzene	ND	250	290		5	116	0.24	70-130	20	04/26/2022 1929
Methyl acetate	ND	250	260		5	103	10	70-130	20	04/26/2022 1929
Methyl tertiary butyl ether (MTBE)	ND	250	240		5	98	4.3	70-130	20	04/26/2022 1929
4-Methyl-2-pentanone	ND	500	510		5	101	3.6	70-130	20	04/26/2022 1929
Methylcyclohexane	ND	250	260		5	106	3.9	70-130	20	04/26/2022 1929
Methylene chloride	5.5	250	250		5	96	0.63	70-130	20	04/26/2022 1929
Styrene	ND	250	270		5	107	1.8	70-130	20	04/26/2022 1929
1,1,2,2-Tetrachloroethane	ND	250	270		5	107	1.1	70-130	20	04/26/2022 1929
Tetrachloroethene	60	250	340		5	112	2.1	70-130	20	04/26/2022 1929
Toluene	ND	250	290		5	114	1.3	70-130	20	04/26/2022 1929
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	250	250		5	100	2.1	70-130	20	04/26/2022 1929
1,2,4-Trichlorobenzene	ND	250	230		5	91	1.2	70-130	20	04/26/2022 1929
1,1,1-Trichloroethane	ND	250	260		5	104	2.3	70-130	20	04/26/2022 1929
1,1,2-Trichloroethane	30	250	290		5	105	1.4	70-130	20	04/26/2022 1929

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

Volatile Organic Compounds by GC/MS - MSD

Sample ID: XD19085-008MD

Matrix: Aqueous

Batch: 39396

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	97	250	340		5	98	0.29	70-130	20	04/26/2022 1929
Trichlorofluoromethane	ND	250	270		5	108	9.5	70-130	20	04/26/2022 1929
Vinyl chloride	11	250	260		5	101	0.31	70-130	20	04/26/2022 1929
Xylenes (total)	ND	500	570		5	115	0.021	70-130	20	04/26/2022 1929
Surrogate	Q	% Rec	Acceptance Limit							
Bromofluorobenzene		108	70-130							
1,2-Dichloroethane-d4		103	70-130							
Toluene-d8		110	70-130							

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

Dissolved Gases - MB

Sample ID: XQ38745-001

Matrix: Aqueous

Batch: 38745

Analytical Method: RSK - 175

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Ethane	ND		1	10	2.5	ug/L	04/20/2022 0947
Ethene	ND		1	10	2.5	ug/L	04/20/2022 0947
Methane	ND		1	10	2.5	ug/L	04/20/2022 0947
Propane	ND		1	15	5.0	ug/L	04/20/2022 0947

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

Dissolved Gases - LCS

Sample ID: XQ38745-002

Matrix: Aqueous

Batch: 38745

Analytical Method: RSK - 175

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Ethane	550	560		1	101	70-130	04/20/2022 0903
Ethene	520	530		1	102	70-130	04/20/2022 0903
Methane	300	310		1	106	70-130	04/20/2022 0903
Propane	810	800		1	98	70-130	04/20/2022 0903

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

Dissolved Gases - LCSD

Sample ID: XQ38745-003

Matrix: Aqueous

Batch: 38745

Analytical Method: RSK - 175

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Ethane	550	550		1	99	1.7	70-130	30	04/20/2022 0917
Ethene	520	520		1	101	1.5	70-130	30	04/20/2022 0917
Methane	300	310		1	103	2.1	70-130	30	04/20/2022 0917
Propane	810	790		1	97	1.6	70-130	30	04/20/2022 0917

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

Chain of Custody
and
Miscellaneous Documents



PACE ANALYTICAL SERVICES, LLC
 106 Vantage Point Drive • West Columbia, SC 29172
 Telephone No. 803-791-9700 Fax No. 803-791-9111
 www.pacelabs.com

Number 133564

Client WSP, USA		Report to Contact MANANN.BROOKSHIRE@WSP.COM		Telephone No. / E-mail		Quote No.	
Address 1880 West Oak Parkway Bldg 100 Ste 106		Signature <i>[Signature]</i>		Analysts (Attach list if more space is needed)		Page 1 of 1	
City Marietta		Printed Name Tiffany Messier		Dissolved gases		LUD XD19085	
Project Name Vennix International		Matrix		1,4 D SIM		Remarks / Cooler I.D.	
Project No. E02.20160378.2		Collection Date		VOC 8260			
Sample ID / Description		Calculation Time (Min)		NO ₃ /SO ₄ /Cl/AK			
MN-17		4.19.22-09:05		TOC			
MN-15		4.19.22-10:30		2		3	
MN-20		4.19.22-11:30		2		3	
MN-2		4.19.22-12:30		2		3	
MN-10		4.19.22-14:20		2		3	
MN-1		4.19.22-15:20		2		3	
TB-01		4.19.22		3			
DP-15-15		4.19.22-15:07		3			
DP-15-22		4.19.22-15:29		3			
DWP-02-GW-041922		4.19.22		3			

Turn Around Time Required (Prior lab approval required for expedited TAT.)		Sample Disposal		Possible Hazard Identification		QC Requirements (Specify)	
Standard <input type="checkbox"/> Rush (Specify)		<input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposed by Lab		<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison <input type="checkbox"/> Unknown		Date	
1. Initiated by <i>[Signature]</i>		Date 4.19.22		1. Received by		Date	
2. Requisitioned by <i>[Signature]</i>		Date 4.19.22		2. Received by		Date	
3. Requisitioned by		Date		3. Received by		Date	
4. Requisitioned by		Date		4. Laboratory received by <i>[Signature]</i>		Date 4/19/22	
Note: All samples are retained for four weeks from receipt unless other arrangements are made.		LMS USE ONLY		Received on site (Circle) Yes No		Receipt Temp. 1.9 °C	
						Temp Blank J Y EN	

Document Number: ME0203M2-01

DISTRIBUTION: WHITE & YELLOW-Return to Laboratory with Samples; PINK-Field/Cient Copy

PACE ANALYTICAL SERVICES, LLC



Samples Receipt Checklist (SRC) (ME0018C-15)

Issuing Authority: Pace ENV - WCOL

Revised: 9/29/2020

Page 1 of 1

Sample Receipt Checklist (SRC)

Client: WSP

Cooler Inspected by/date: CBP / 04/19/2022

Lot #: XD19085

Means of receipt: <input checked="" type="checkbox"/> Pace <input type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Other: _____	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1. Were custody seals present on the cooler?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	2. If custody seals were present, were they intact and unbroken?
pH Strip ID: 21-832 Chlorine Strip ID: NA Tested by: TEC	
Original temperature upon receipt / Derived (Corrected) temperature upon receipt %Solid Snap-Cup ID: NA	
1.9 / 1.9 °C NA / NA °C NA / NA °C NA / NA °C	
Method: <input checked="" type="checkbox"/> Temperature Blank <input type="checkbox"/> Against Bottles IR Gun ID: 5 IR Gun Correction Factor: 0 °C	
Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Ice Packs <input type="checkbox"/> Dry Ice <input type="checkbox"/> None	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	4. Is the commercial courier's packing slip attached to this form?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5. Were proper custody procedures (relinquished/received) followed?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6. Were sample IDs listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7. Were sample IDs listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8. Was collection date & time listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9. Was collection date & time listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10. Did all container label information (ID, date, time) agree with the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11. Were tests to be performed listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	13. Was adequate sample volume available?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	14. Were all samples received within 1/2 the holding time or 48 hours, whichever comes first?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA	16. For VOA and RSK-175 samples, were bubbles present >"pea-size" (1/4" or 6mm in diameter) in any of the VOA vials?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	19. Were all applicable NH ₃ /TKN/cyanide/phenol/625.1/608.3 (< 0.5mg/L) samples free of residual chlorine?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	20. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	21. Was the quote number listed on the container label? If yes, Quote # _____
Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)	
Sample(s) NA were received incorrectly preserved and were adjusted accordingly in sample receiving with NA mL of circle one: H2SO4, HNO3, HCl, NaOH using SR # NA	
Time of preservation NA. If more than one preservative is needed, please note in the comments below.	
Sample(s) NA were received with bubbles >6 mm in diameter.	
Sample(s) NA were received with TRC > 0.5 mg/L (If #19 is no) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na ₂ S ₂ O ₃) with Shealy ID: NA	
SR barcode labels applied by: CBP Date: 04/19/2022	

Comments:



Report of Analysis

EarthCon Consultants, Inc.
1880 West Oak Parkway
Building 100, Suite 106
Marietta, GA 30062
Attention: Mary Ann Brookshire

Project Name: Lennox International

Project Number: EC02.20160378.21

Lot Number: **XD20108**

Date Completed: 05/09/2022

05/13/2022 3:50 PM

Approved and released by:
Project Manager II: **Lucas Odom**



The electronic signature above is the equivalent of a handwritten signature.
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PACE ANALYTICAL SERVICES, LLC

SC DHEC No: 32010001

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

Case Narrative EarthCon Consultants, Inc. Lot Number: XD20108

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report. Where sampling is conducted by the client, results relate to the accuracy of the information provided, and as the samples are received.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved The NELAC Institute (TNI) standards, the Pace Analytical Services, LLC ("Pace") Laboratory Quality Manual, standard operating procedures (SOPs), and Pace policies. Any exceptions to the TNI standards, the Laboratory Quality Manual, SOPs or policies are qualified on the results page or discussed below.

Pace is a TNI accredited laboratory; however, the following analyses are currently not listed on our TNI scope of accreditation: Drinking Water: VOC (excluding BTEX, MTBE, Naphthalene, & 1,2-dichloroethane) EPA 524.2, E. coli and Total coliforms SM 9223 B-2004, Solid Chemical Material: TOC Walkley-Black, Biological Tissue: All, Non-Potable Water: SGT-HEM EPA 1664B, Silica EPA 200.7, Boron, Calcium, Silicon, Strontium EPA 200.8, Bicarbonate, Carbonate, and Hydroxide Alkalinity SM 2320 B-2011, SM 9221 C E-2006 & SM 9222D-2006, Strontium SW-846 6010D, VOC SM 6200 B-2011, Fecal Coliform Colilert-18.

If you have any questions regarding this report, please contact the Pace Project Manager listed on the cover page.

Sample Receiving

Per client request, the sample ID for sample -001 has been reported as MW-7.

VOCs by GC/MS

Insufficient sample volume was provided to perform matrix spike/matrix spike duplicate (MS/MSD) for analytical batch 39016 and 40291. An LCS/LCSD was run in lieu of an MS/MSD.

The following sample required a dilution which was performed outside of the analytical holding time for Trichloroethene and Tetrachloroethene: XD20108-011 and XD20108-012.

Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for 10% of analytes to recover marginally outside criteria. The following analytes recovered marginally outside LCS criteria: Acetone

Inorganic Non-Metals

The MS/MSD associated with batch 39491 recovered Sulfide outside of method criteria. Associated samples are qualified with an "S".

PACE ANALYTICAL SERVICES, LLC

Sample Summary EarthCon Consultants, Inc. Lot Number: XD20108

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-7	Aqueous	04/20/2022 0910	04/20/2022
002	MW-16	Aqueous	04/20/2022 1005	04/20/2022
003	EB-01-042022	Aqueous	04/20/2022 1030	04/20/2022
004	MW-11	Aqueous	04/20/2022 0950	04/20/2022
005	MW-3D	Aqueous	04/20/2022 1130	04/20/2022
006	MW-3	Aqueous	04/20/2022 1315	04/20/2022
007	MW-10	Aqueous	04/20/2022 1420	04/20/2022
008	MW-14	Aqueous	04/20/2022 1520	04/20/2022
009	MW-4	Aqueous	04/20/2022 1528	04/20/2022
010	MW-4D	Aqueous	04/20/2022 1442	04/20/2022
011	MW-18	Aqueous	04/20/2022 1345	04/20/2022
012	Dup-01	Aqueous	04/20/2022	04/20/2022
013	Trip Blank	Aqueous	04/20/2022	04/20/2022

(13 samples)

PACE ANALYTICAL SERVICES, LLC

Detection Summary EarthCon Consultants, Inc. Lot Number: XD20108

Sample ID	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	MW-7	Aqueous	Alkalinity @ pH 4.5 su	SM 2320B-	24		mg CaCO3/L	9
001	MW-7	Aqueous	Chloride	9056A	18		mg/L	9
001	MW-7	Aqueous	Sulfate	9056A	0.52	J	mg/L	9
001	MW-7	Aqueous	TOC	9060A	6.0		mg/L	9
001	MW-7	Aqueous	Acetone	8260D	10	J	ug/L	9
001	MW-7	Aqueous	1,1-Dichloroethene	8260D	1.2		ug/L	10
001	MW-7	Aqueous	cis-1,2-Dichloroethene	8260D	710		ug/L	10
001	MW-7	Aqueous	trans-1,2-Dichloroethene	8260D	5.9		ug/L	10
001	MW-7	Aqueous	Ethylbenzene	8260D	240		ug/L	10
001	MW-7	Aqueous	Isopropylbenzene	8260D	2.3		ug/L	10
001	MW-7	Aqueous	Toluene	8260D	6.4		ug/L	10
001	MW-7	Aqueous	Trichloroethene	8260D	0.66	J	ug/L	10
001	MW-7	Aqueous	Vinyl chloride	8260D	1400		ug/L	10
001	MW-7	Aqueous	Xylenes (total)	8260D	660		ug/L	10
001	MW-7	Aqueous	1,4-Dioxane	8260D (SIM)	1.5	J	ug/L	11
001	MW-7	Aqueous	Ethane	RSK - 175	30		ug/L	11
001	MW-7	Aqueous	Ethene	RSK - 175	150		ug/L	11
001	MW-7	Aqueous	Methane	RSK - 175	1600		ug/L	11
002	MW-16	Aqueous	Chloride	9056A	12		mg/L	12
002	MW-16	Aqueous	Nitrate - N	9056A	5.3		mg/L	12
002	MW-16	Aqueous	Sulfate	9056A	0.41	J	mg/L	12
002	MW-16	Aqueous	Chloroform	8260D	1.6		ug/L	12
002	MW-16	Aqueous	Methane	RSK - 175	2.8	J	ug/L	14
004	MW-11	Aqueous	Alkalinity @ pH 4.5 su	SM 2320B-	44		mg CaCO3/L	18
004	MW-11	Aqueous	Chloride	9056A	3.4		mg/L	18
004	MW-11	Aqueous	Sulfate	9056A	5.6		mg/L	18
004	MW-11	Aqueous	TOC	9060A	2.1		mg/L	18
004	MW-11	Aqueous	Methane	RSK - 175	200		ug/L	20
005	MW-3D	Aqueous	Chloride	9056A	12		mg/L	21
005	MW-3D	Aqueous	Nitrate - N	9056A	3.5		mg/L	21
005	MW-3D	Aqueous	Sulfate	9056A	0.41	J	mg/L	21
005	MW-3D	Aqueous	Chloroform	8260D	0.94	J	ug/L	21
006	MW-3	Aqueous	Chloride	9056A	39		mg/L	24
006	MW-3	Aqueous	Sulfide	SM 4500-S2 F-	2.5		mg/L	24
006	MW-3	Aqueous	TOC	9060A	12		mg/L	24
006	MW-3	Aqueous	1,1-Dichloroethane	8260D	960		ug/L	24
006	MW-3	Aqueous	1,1-Dichloroethene	8260D	400		ug/L	25
006	MW-3	Aqueous	cis-1,2-Dichloroethene	8260D	16000		ug/L	25
006	MW-3	Aqueous	trans-1,2-Dichloroethene	8260D	130	J	ug/L	25
006	MW-3	Aqueous	Ethylbenzene	8260D	330		ug/L	25
006	MW-3	Aqueous	Toluene	8260D	120	J	ug/L	25
006	MW-3	Aqueous	Vinyl chloride	8260D	1300	S	ug/L	25
006	MW-3	Aqueous	Xylenes (total)	8260D	1300		ug/L	25
006	MW-3	Aqueous	1,4-Dioxane	8260D (SIM)	240	S	ug/L	25
006	MW-3	Aqueous	Ethane	RSK - 175	33		ug/L	26

Detection Summary (Continued)

Lot Number: XD20108

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
006	MW-3	Aqueous	Ethene	RSK - 175	110		ug/L	26
006	MW-3	Aqueous	Methane	RSK - 175	7900		ug/L	26
007	MW-10	Aqueous	Chloride	9056A	11		mg/L	27
007	MW-10	Aqueous	Sulfate	9056A	6.1		mg/L	27
007	MW-10	Aqueous	TOC	9060A	2.1		mg/L	27
007	MW-10	Aqueous	Methane	RSK - 175	62		ug/L	29
008	MW-14	Aqueous	Chloride	9056A	3.3		mg/L	30
008	MW-14	Aqueous	Sulfate	9056A	4.8		mg/L	30
008	MW-14	Aqueous	TOC	9060A	1.3		mg/L	30
008	MW-14	Aqueous	Methane	RSK - 175	96		ug/L	32
009	MW-4	Aqueous	Chloride	9056A	8.9		mg/L	33
009	MW-4	Aqueous	Nitrate - N	9056A	0.013	J	mg/L	33
009	MW-4	Aqueous	Sulfate	9056A	2.2		mg/L	33
009	MW-4	Aqueous	TOC	9060A	1.2		mg/L	33
009	MW-4	Aqueous	cis-1,2-Dichloroethene	8260D	5.5		ug/L	34
009	MW-4	Aqueous	Tetrachloroethene	8260D	2.5		ug/L	34
009	MW-4	Aqueous	1,1,2-Trichloroethane	8260D	0.51	J	ug/L	34
009	MW-4	Aqueous	Trichloroethene	8260D	4.9		ug/L	34
009	MW-4	Aqueous	Methane	RSK - 175	2.9	J	ug/L	35
010	MW-4D	Aqueous	Chloride	9056A	1.8		mg/L	36
010	MW-4D	Aqueous	Nitrate - N	9056A	0.069		mg/L	36
010	MW-4D	Aqueous	Sulfate	9056A	1.0		mg/L	36
010	MW-4D	Aqueous	1,1-Dichloroethene	8260D	1.0		ug/L	37
010	MW-4D	Aqueous	cis-1,2-Dichloroethene	8260D	0.74	J	ug/L	37
010	MW-4D	Aqueous	Tetrachloroethene	8260D	32		ug/L	37
010	MW-4D	Aqueous	Trichloroethene	8260D	1.4		ug/L	37
011	MW-18	Aqueous	Alkalinity @ pH 4.5 su	SM 2320B-	38		mg CaCO3/L	39
011	MW-18	Aqueous	Chloride	9056A	7.5		mg/L	39
011	MW-18	Aqueous	Nitrate - N	9056A	1.5		mg/L	39
011	MW-18	Aqueous	Sulfate	9056A	2.3		mg/L	39
011	MW-18	Aqueous	TOC	9060A	0.71	J	mg/L	39
011	MW-18	Aqueous	Acetone	8260D	12	J	ug/L	39
011	MW-18	Aqueous	Benzene	8260D	1.1		ug/L	39
011	MW-18	Aqueous	Chloroform	8260D	0.48	J	ug/L	39
011	MW-18	Aqueous	1,1-Dichloroethane	8260D	0.49	J	ug/L	39
011	MW-18	Aqueous	1,1-Dichloroethene	8260D	13		ug/L	40
011	MW-18	Aqueous	cis-1,2-Dichloroethene	8260D	9.2		ug/L	40
011	MW-18	Aqueous	Tetrachloroethene	8260D	390	H	ug/L	40
011	MW-18	Aqueous	Toluene	8260D	1.4		ug/L	40
011	MW-18	Aqueous	1,1,1-Trichloroethane	8260D	0.89	J	ug/L	40
011	MW-18	Aqueous	1,1,2-Trichloroethane	8260D	17		ug/L	40
011	MW-18	Aqueous	Trichloroethene	8260D	550	H	ug/L	40
011	MW-18	Aqueous	Vinyl chloride	8260D	0.81	J	ug/L	40
011	MW-18	Aqueous	Xylenes (total)	8260D	8.8		ug/L	40
011	MW-18	Aqueous	Ethene	RSK - 175	8.3	J	ug/L	41
011	MW-18	Aqueous	Methane	RSK - 175	44		ug/L	41
012	Dup-01	Aqueous	Alkalinity @ pH 4.5 su	SM 2320B-	37		mg CaCO3/L	42
012	Dup-01	Aqueous	Chloride	9056A	7.5		mg/L	42

Detection Summary (Continued)

Lot Number: XD20108

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
012	Dup-01	Aqueous	Nitrate - N	9056A	1.5		mg/L	42
012	Dup-01	Aqueous	Sulfate	9056A	2.1		mg/L	42
012	Dup-01	Aqueous	TOC	9060A	0.86	J	mg/L	42
012	Dup-01	Aqueous	Acetone	8260D	11	J	ug/L	42
012	Dup-01	Aqueous	Benzene	8260D	1.1		ug/L	42
012	Dup-01	Aqueous	Chloroform	8260D	0.46	J	ug/L	42
012	Dup-01	Aqueous	1,1-Dichloroethane	8260D	0.51	J	ug/L	42
012	Dup-01	Aqueous	1,1-Dichloroethene	8260D	13		ug/L	43
012	Dup-01	Aqueous	cis-1,2-Dichloroethene	8260D	9.4		ug/L	43
012	Dup-01	Aqueous	Tetrachloroethene	8260D	360	H	ug/L	43
012	Dup-01	Aqueous	Toluene	8260D	1.4		ug/L	43
012	Dup-01	Aqueous	1,1,1-Trichloroethane	8260D	0.89	J	ug/L	43
012	Dup-01	Aqueous	1,1,2-Trichloroethane	8260D	17		ug/L	43
012	Dup-01	Aqueous	Trichloroethene	8260D	480	H	ug/L	43
012	Dup-01	Aqueous	Vinyl chloride	8260D	0.74	J	ug/L	43
012	Dup-01	Aqueous	Xylenes (total)	8260D	8.8		ug/L	43
012	Dup-01	Aqueous	Ethane	RSK - 175	2.6	J	ug/L	44
012	Dup-01	Aqueous	Ethene	RSK - 175	9.6	J	ug/L	44
012	Dup-01	Aqueous	Methane	RSK - 175	45		ug/L	44
013	Trip Blank	Aqueous	Acetone	8260D	11	J	ug/L	45

(113 detections)

Description: MW-7

Matrix: Aqueous

Date Sampled: 04/20/2022 0910

Date Received: 04/20/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	(Alkalinity @)	SM 2320B-2011	1	04/21/2022 1847	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 1759	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 1759	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 1759	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/26/2022 1403	SJL		39372
2		(TOC) 9060A	1	05/04/2022 0136	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	24		20	20	mg CaCO3/L	1
Chloride		9056A	18		1.0	0.25	mg/L	1
Nitrate - N		9056A	ND		0.020	0.0050	mg/L	1
Sulfate		9056A	0.52	J	1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	6.0		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/29/2022 1719	JWO		39876
2	5030B	8260D	20	05/02/2022 1908	JWO		40083

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	10	J	20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 5.939 - 6.11

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Description: MW-7

Matrix: Aqueous

Date Sampled: 04/20/2022 0910

Date Received: 04/20/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/29/2022 1719	JWO		39876
2	5030B	8260D	20	05/02/2022 1908	JWO		40083

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
1,1-Dichloroethene	75-35-4	8260D	1.2		1.0	0.40	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260D	710		20	8.0	ug/L	2
trans-1,2-Dichloroethene	156-60-5	8260D	5.9		1.0	0.40	ug/L	1
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1
Ethylbenzene	100-41-4	8260D	240		20	8.0	ug/L	2
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1
Isopropylbenzene	98-82-8	8260D	2.3		1.0	0.40	ug/L	1
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260D	6.4		1.0	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1
Trichloroethene	79-01-6	8260D	0.66	J	1.0	0.40	ug/L	1
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1
Vinyl chloride	75-01-4	8260D	1400		20	8.0	ug/L	2
Xylenes (total)	1330-20-7	8260D	660		20	8.0	ug/L	2

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
Bromofluorobenzene		107	70-130		106	70-130
1,2-Dichloroethane-d4		116	70-130		119	70-130
Toluene-d8		101	70-130		100	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D (SIM)	1	04/22/2022 0236	SDC		39016

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Description: MW-7

Matrix: Aqueous

Date Sampled: 04/20/2022 0910

Date Received: 04/20/2022

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	5030B	8260D (SIM)	1	04/22/2022 0236	SDC		39016			
Parameter		CAS Number		Analytical Method	Result	Q	LOQ	DL	Units	Run
1,4-Dioxane		123-91-1		8260D (SIM)	1.5	J	3.0	1.0	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
1,2-Dichloroethane-d4		108	40-170							

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1		RSK - 175	1	04/22/2022 1117	JM1		39117			
Parameter		CAS Number		Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane		74-84-0		RSK - 175	30		10	2.5	ug/L	1
Ethene		74-85-1		RSK - 175	150		10	2.5	ug/L	1
Methane		74-82-8		RSK - 175	1600		10	2.5	ug/L	1
Propane		74-98-6		RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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Description: MW-16

Matrix: Aqueous

Date Sampled: 04/20/2022 1005

Date Received: 04/20/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	(Alkalinity @)	SM 2320B-2011	1	04/21/2022 1851	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 1818	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 1818	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 1818	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/26/2022 1403	SJL		39372
2		(TOC) 9060A	1	05/04/2022 0159	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	12		1.0	0.25	mg/L	1
Nitrate - N		9056A	5.3		0.020	0.0050	mg/L	1
Sulfate		9056A	0.41	J	1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	ND		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/29/2022 1744	JWO		39876
2	5030B	8260D	1	05/02/2022 1251	JWO		40083

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	1.6		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 0.173 - 0.254

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Description: MW-16

Matrix: Aqueous

Date Sampled: 04/20/2022 1005

Date Received: 04/20/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/29/2022 1744	JWO		39876
2	5030B	8260D	1	05/02/2022 1251	JWO		40083

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	2
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	2
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	2

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
Bromofluorobenzene		99	70-130		100	70-130
1,2-Dichloroethane-d4		119	70-130		119	70-130
Toluene-d8		103	70-130		105	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D (SIM)	1	04/22/2022 0301	SDC		39016

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Description: MW-16

Matrix: Aqueous

Date Sampled: 04/20/2022 1005

Date Received: 04/20/2022

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	
1	5030B	8260D (SIM)	1	04/22/2022 0301	SDC		39016	
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits					
1,2-Dichloroethane-d4		109	40-170					

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	
1		RSK - 175	1	04/22/2022 1133	JM1		39117	
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	2.8	J	10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	(Alkalinity @)	SM 2320B-2011	1	04/21/2022 1855	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 1837	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 1837	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 1837	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/26/2022 1403	SJL		39372
2		(TOC) 9060A	1	05/04/2022 0223	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	ND		1.0	0.25	mg/L	1
Nitrate - N		9056A	ND		0.020	0.0050	mg/L	1
Sulfate		9056A	ND		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	ND		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/28/2022 0139	JMM2		39612

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 0.209 - 0.229

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	5030B	8260D	1	04/28/2022 0139	JMM2		39612			
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run		
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1		
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1		
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1		
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1		
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1		
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1		
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1		
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1		
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1		
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1		
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1		
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1		
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1		
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1		
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1		
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1		
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1		
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1		
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1		
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1		
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1		
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1		
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1		
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1		
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1		
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1		
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
Bromofluorobenzene		92	70-130							
1,2-Dichloroethane-d4		108	70-130							
Toluene-d8		100	70-130							

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	5030B	8260D (SIM)	1	04/22/2022 0325	SDC		39016			
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run		
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1		

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/22/2022 1149	JM1		39117

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	ND		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Description: MW-11

Matrix: Aqueous

Date Sampled: 04/20/2022 0950

Date Received: 04/20/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	(Alkalinity @)	SM 2320B-2011	1	04/21/2022 1902	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 1855	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 1855	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 1855	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/26/2022 1403	SJL		39372
2		(TOC) 9060A	1	05/04/2022 0246	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	44		20	20	mg CaCO3/L	1
Chloride		9056A	3.4		1.0	0.25	mg/L	1
Nitrate - N		9056A	ND		0.020	0.0050	mg/L	1
Sulfate		9056A	5.6		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	2.1		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/29/2022 1809	JWO		39876

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 2.069 - 2.152

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	1	04/29/2022 1809	JWO		39876		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1	
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
Bromofluorobenzene		95	70-130						
1,2-Dichloroethane-d4		119	70-130						
Toluene-d8		99	70-130						

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D (SIM)	1	04/22/2022 0349	SDC		39016		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1	

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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Surrogate	Q	Run 1	Acceptance
		% Recovery	Limits
1,2-Dichloroethane-d4		109	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/22/2022 1204	JM1		39117

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	200		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Description: MW-3D

Matrix: Aqueous

Date Sampled: 04/20/2022 1130

Date Received: 04/20/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	(Alkalinity @)	SM 2320B-2011	1	04/21/2022 1905	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 1914	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 1914	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 1914	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/26/2022 1403	SJL		39372
2		(TOC) 9060A	1	05/04/2022 0358	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	12		1.0	0.25	mg/L	1
Nitrate - N		9056A	3.5		0.020	0.0050	mg/L	1
Sulfate		9056A	0.41	J	1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	ND		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/29/2022 1834	JWO		39876

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	0.94	J	1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 0.367 - 0.419

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	1	04/29/2022 1834	JWO		39876		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1	
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
Bromofluorobenzene		97	70-130						
1,2-Dichloroethane-d4		118	70-130						
Toluene-d8		102	70-130						

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D (SIM)	1	04/22/2022 0414	SDC		39016		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1	

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		105	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/22/2022 1220	JM1		39117

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	ND		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Description: MW-3

Matrix: Aqueous

Date Sampled: 04/20/2022 1315

Date Received: 04/20/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	(Alkalinity @)	SM 2320B-2011	1	04/21/2022 1909	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 1933	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 1933	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 1933	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/27/2022 1412	SJL		39491
2		(TOC) 9060A	1	05/04/2022 0422	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	39		1.0	0.25	mg/L	1
Nitrate - N		9056A	ND		0.020	0.0050	mg/L	1
Sulfate		9056A	ND		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	2.5		1.0	1.0	mg/L	1
TOC		9060A	12		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	200	04/29/2022 1901	BWS		39889

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		4000	1000	ug/L	1
Benzene	71-43-2	8260D	ND		200	80	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		200	80	ug/L	1
Bromoform	75-25-2	8260D	ND		200	80	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND	S	400	80	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		2000	400	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		200	80	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		200	80	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		200	80	ug/L	1
Chloroethane	75-00-3	8260D	ND		400	80	ug/L	1
Chloroform	67-66-3	8260D	ND		200	80	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		200	100	ug/L	1
Cyclohexane	110-82-7	8260D	ND		200	80	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		200	80	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		200	80	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		200	80	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		200	80	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		200	80	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		200	80	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND	S	400	120	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	960		200	80	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		200	80	ug/L	1

TOC Range: 12.339 - 12.506

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Description: MW-3

Matrix: Aqueous

Date Sampled: 04/20/2022 1315

Date Received: 04/20/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	200	04/29/2022 1901	BWS		39889		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1-Dichloroethene	75-35-4	8260D	400		200	80	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	16000		200	80	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	130	J	200	80	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		200	80	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		200	80	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		200	80	ug/L	1	
Ethylbenzene	100-41-4	8260D	330		200	80	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		2000	400	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		200	80	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		200	80	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		200	80	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		2000	400	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		1000	80	ug/L	1	
Methylene chloride	75-09-2	8260D	ND		200	80	ug/L	1	
Styrene	100-42-5	8260D	ND		200	82	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		200	80	ug/L	1	
Tetrachloroethene	127-18-4	8260D	ND		200	80	ug/L	1	
Toluene	108-88-3	8260D	120	J	200	80	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		200	84	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		200	80	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260D	ND		200	80	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260D	ND		200	80	ug/L	1	
Trichloroethene	79-01-6	8260D	ND		200	80	ug/L	1	
Trichlorofluoromethane	75-69-4	8260D	ND		200	80	ug/L	1	
Vinyl chloride	75-01-4	8260D	1300	S	200	80	ug/L	1	
Xylenes (total)	1330-20-7	8260D	1300		200	80	ug/L	1	
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
Bromofluorobenzene		103	70-130						
1,2-Dichloroethane-d4		102	70-130						
Toluene-d8		96	70-130						

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
2	5030B	8260D (SIM)	5	04/28/2022 1932	BWS		39725		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane	123-91-1	8260D (SIM)	240	S	15	5.0	ug/L	2	

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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Surrogate	Q	Run 2	Acceptance
		% Recovery	Limits
1,2-Dichloroethane-d4		98	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/22/2022 1236	JM1		39117
2		RSK - 175	10	04/28/2022 1838	JM1		39707

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	33		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	110		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	7900		100	25	ug/L	2
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Description: MW-10

Matrix: Aqueous

Date Sampled: 04/20/2022 1420

Date Received: 04/20/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	(Alkalinity @)	SM 2320B-2011	1	04/21/2022 1921	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 1952	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 1952	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 1952	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/27/2022 1412	SJL		39491
2		(TOC) 9060A	1	05/04/2022 0445	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	11		1.0	0.25	mg/L	1
Nitrate - N		9056A	ND		0.020	0.0050	mg/L	1
Sulfate		9056A	6.1		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	2.1		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/02/2022 1316	JWO		40083

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 2.047 - 2.138

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Description: MW-10

Matrix: Aqueous

Date Sampled: 04/20/2022 1420

Date Received: 04/20/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	1	05/02/2022 1316	JWO		40083		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		118	70-130
Toluene-d8		103	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
2	5030B	8260D (SIM)	1	04/28/2022 1551	BWS		39725		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	2	

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/22/2022 1252	JM1		39117

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	62		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	(Alkalinity @)	SM 2320B-2011	1	04/21/2022 1934	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 2011	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 2011	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 2011	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/27/2022 1412	SJL		39491
2		(TOC) 9060A	1	05/04/2022 0557	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	3.3		1.0	0.25	mg/L	1
Nitrate - N		9056A	ND		0.020	0.0050	mg/L	1
Sulfate		9056A	4.8		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	1.3		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/02/2022 1341	JWO		40083

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 1.282 - 1.328

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	5030B	8260D	1	05/02/2022 1341	JWO		40083			
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run		
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1		
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1		
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1		
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1		
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1		
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1		
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1		
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1		
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1		
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1		
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1		
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1		
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1		
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1		
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1		
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1		
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1		
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1		
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1		
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1		
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1		
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1		
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1		
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1		
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1		
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1		
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
Bromofluorobenzene		97	70-130							
1,2-Dichloroethane-d4		118	70-130							
Toluene-d8		102	70-130							

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	5030B	8260D (SIM)	1	04/22/2022 0527	SDC		39016			
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run		
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1		

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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Surrogate	Q	Run 1	Acceptance
		% Recovery	Limits
1,2-Dichloroethane-d4		107	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/22/2022 1308	JM1		39117

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	96		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Description: MW-4

Matrix: Aqueous

Date Sampled: 04/20/2022 1528

Date Received: 04/20/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	(Alkalinity @)	SM 2320B-2011	1	04/21/2022 1939	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 2030	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 2030	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 2030	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/27/2022 1412	SJL		39491
2		(TOC) 9060A	1	05/04/2022 0620	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	8.9		1.0	0.25	mg/L	1
Nitrate - N		9056A	0.013	J	0.020	0.0050	mg/L	1
Sulfate		9056A	2.2		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	1.2		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/02/2022 1406	JWO		40083

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 1.172 - 1.222

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Description: MW-4

Matrix: Aqueous

Date Sampled: 04/20/2022 1528

Date Received: 04/20/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	1	05/02/2022 1406	JWO		40083		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	5.5		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1	
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260D	2.5		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1	
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane	79-00-5	8260D	0.51	J	1.0	0.40	ug/L	1	
Trichloroethene	79-01-6	8260D	4.9		1.0	0.40	ug/L	1	
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1	
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1	
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1	
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
Bromofluorobenzene		97	70-130						
1,2-Dichloroethane-d4		115	70-130						
Toluene-d8		102	70-130						

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D (SIM)	1	04/22/2022 0551	SDC		39016		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1	

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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Surrogate	Run 1		Acceptance Limits
	Q	% Recovery	
1,2-Dichloroethane-d4		106	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/22/2022 1324	JM1		39117

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	2.9	J	10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	(Alkalinity @)	SM 2320B-2011	1	04/21/2022 1944	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 2049	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 2049	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 2049	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/27/2022 1412	SJL		39491
2		(TOC) 9060A	1	05/04/2022 0644	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO3/L	1
Chloride		9056A	1.8		1.0	0.25	mg/L	1
Nitrate - N		9056A	0.069		0.020	0.0050	mg/L	1
Sulfate		9056A	1.0		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	ND		1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/02/2022 1432	JWO		40083

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1

TOC Range: 0.094 - 0.122

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/02/2022 1432	JWO		40083

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,1-Dichloroethene	75-35-4	8260D	1.0		1.0	0.40	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260D	0.74	J	1.0	0.40	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1
Tetrachloroethene	127-18-4	8260D	32		1.0	0.40	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1
Trichloroethene	79-01-6	8260D	1.4		1.0	0.40	ug/L	1
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		120	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D (SIM)	1	04/22/2022 0616	SDC		39016

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		107	40-170

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	04/22/2022 1340	JM1		39117

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	ND		10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	ND		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Description: MW-18

Matrix: Aqueous

Date Sampled: 04/20/2022 1345

Date Received: 04/20/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	(Alkalinity @)	SM 2320B-2011	1	04/21/2022 1951	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 2224	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 2224	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 2224	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/27/2022 1412	SJL		39491
2		(TOC) 9060A	1	05/04/2022 0707	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	38		20	20	mg CaCO3/L	1
Chloride		9056A	7.5		1.0	0.25	mg/L	1
Nitrate - N		9056A	1.5		0.020	0.0050	mg/L	1
Sulfate		9056A	2.3		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND	S	1.0	1.0	mg/L	1
TOC		9060A	0.71	J	1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/04/2022 0246	SDC		40291
2	5030B	8260D	5	05/06/2022 2006	JWO		40715

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	12	J	20	5.0	ug/L	1
Benzene	71-43-2	8260D	1.1		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	0.48	J	1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	0.49	J	1.0	0.40	ug/L	1

TOC Range: 0.694 - 0.713

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Description: MW-18

Matrix: Aqueous

Date Sampled: 04/20/2022 1345

Date Received: 04/20/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/04/2022 0246	SDC		40291
2	5030B	8260D	5	05/06/2022 2006	JWO		40715

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
1,1-Dichloroethene	75-35-4	8260D	13		1.0	0.40	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260D	9.2		1.0	0.40	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1
Tetrachloroethene	127-18-4	8260D	390	H	5.0	2.0	ug/L	2
Toluene	108-88-3	8260D	1.4		1.0	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260D	0.89	J	1.0	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260D	17		1.0	0.40	ug/L	1
Trichloroethene	79-01-6	8260D	550	H	5.0	2.0	ug/L	2
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1
Vinyl chloride	75-01-4	8260D	0.81	J	1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	8.8		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130	H	108	70-130
1,2-Dichloroethane-d4		119	70-130	H	111	70-130
Toluene-d8		100	70-130	H	112	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D (SIM)	1	04/22/2022 0640	SDC		39016

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Description: MW-18

Matrix: Aqueous

Date Sampled: 04/20/2022 1345

Date Received: 04/20/2022

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	
1	5030B	8260D (SIM)	1	04/22/2022 0640	SDC		39016	
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,4-Dioxane	123-91-1	8260D (SIM)	ND		3.0	1.0	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits					
1,2-Dichloroethane-d4		108	40-170					

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	
1		RSK - 175	1	04/22/2022 1356	JM1		39117	
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane	74-84-0	RSK - 175	ND		10	2.5	ug/L	1
Ethene	74-85-1	RSK - 175	8.3	J	10	2.5	ug/L	1
Methane	74-82-8	RSK - 175	44		10	2.5	ug/L	1
Propane	74-98-6	RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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Description: Dup-01

Matrix: Aqueous

Date Sampled: 04/20/2022

Date Received: 04/20/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	(Alkalinity @)	SM 2320B-2011	1	04/21/2022 1958	TAD		39015
1		(Chloride) 9056A	1	04/21/2022 2243	CAW		39115
1		(Nitrate - N) 9056A	1	04/21/2022 2243	CAW		39105
1		(Sulfate) 9056A	1	04/21/2022 2243	CAW		39110
1		(Sulfide) SM 4500-S2 F-2011	1	04/27/2022 1412	SJL		39491
2		(TOC) 9060A	1	05/04/2022 0731	DMA		40276

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	37		20	20	mg CaCO3/L	1
Chloride		9056A	7.5		1.0	0.25	mg/L	1
Nitrate - N		9056A	1.5		0.020	0.0050	mg/L	1
Sulfate		9056A	2.1		1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	ND		1.0	1.0	mg/L	1
TOC		9060A	0.86	J	1.0	0.42	mg/L	2

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/04/2022 0312	SDC		40291
2	5030B	8260D	5	05/06/2022 1936	BWS		40706

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	11	J	20	5.0	ug/L	1
Benzene	71-43-2	8260D	1.1		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	0.46	J	1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	0.51	J	1.0	0.40	ug/L	1

TOC Range: 0.854 - 0.868

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Description: Dup-01

Matrix: Aqueous

Date Sampled: 04/20/2022

Date Received: 04/20/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	05/04/2022 0312	SDC		40291
2	5030B	8260D	5	05/06/2022 1936	BWS		40706

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1
1,1-Dichloroethene	75-35-4	8260D	13		1.0	0.40	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260D	9.4		1.0	0.40	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1
Tetrachloroethene	127-18-4	8260D	360	H	5.0	2.0	ug/L	2
Toluene	108-88-3	8260D	1.4		1.0	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260D	0.89	J	1.0	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260D	17		1.0	0.40	ug/L	1
Trichloroethene	79-01-6	8260D	480	H	5.0	2.0	ug/L	2
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1
Vinyl chloride	75-01-4	8260D	0.74	J	1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	8.8		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
Bromofluorobenzene		100	70-130	H	86	70-130
1,2-Dichloroethane-d4		123	70-130	H	118	70-130
Toluene-d8		101	70-130	H	95	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D (SIM)	1	04/22/2022 0705	SDC		39016

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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Description: Dup-01

Matrix: Aqueous

Date Sampled: 04/20/2022

Date Received: 04/20/2022

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	5030B	8260D (SIM)	1	04/22/2022 0705	SDC		39016			
Parameter		CAS Number		Analytical Method	Result	Q	LOQ	DL	Units	Run
1,4-Dioxane		123-91-1		8260D (SIM)	ND		3.0	1.0	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
1,2-Dichloroethane-d4		107	40-170							

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1		RSK - 175	1	04/22/2022 1412	JM1		39117			
Parameter		CAS Number		Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane		74-84-0		RSK - 175	2.6	J	10	2.5	ug/L	1
Ethene		74-85-1		RSK - 175	9.6	J	10	2.5	ug/L	1
Methane		74-82-8		RSK - 175	45		10	2.5	ug/L	1
Propane		74-98-6		RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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Description: Trip Blank

Matrix: Aqueous

Date Sampled: 04/20/2022

Date Received: 04/20/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	5030B	8260D	1	04/29/2022 0058	JMM2		39779		
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
Acetone	67-64-1	8260D	11	J	20	5.0	ug/L	1	
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1	
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1	
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1	
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1	
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1	
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1	
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1	
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1	
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1	
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1	
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1	
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1	
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1	
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1	
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1	
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1	
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1	
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1	
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1	
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1	
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1	
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1	
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1	
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1	
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1	
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1	
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1	
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1	
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1	
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1	
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1	
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1	
1,1,1,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1	
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1	
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1	

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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Description: Trip Blank

Matrix: Aqueous

Date Sampled: 04/20/2022

Date Received: 04/20/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch				
1	5030B	8260D	1	04/29/2022 0058	JMM2		39779				
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run			
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1			
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1			
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1			
1,1,2-Trichloroethane	79-00-5	8260D	ND		1.0	0.40	ug/L	1			
Trichloroethene	79-01-6	8260D	ND		1.0	0.40	ug/L	1			
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1			
Vinyl chloride	75-01-4	8260D	ND		1.0	0.40	ug/L	1			
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1			
Surrogate	Q	Run 1 % Recovery	Acceptance Limits								
Bromofluorobenzene		96	70-130								
1,2-Dichloroethane-d4		114	70-130								
Toluene-d8		101	70-130								

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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QC Summary

Inorganic non-metals - LCS

Sample ID: XQ39015-002

Matrix: Aqueous

Batch: 39015

Analytical Method: SM 2320B-2011

Parameter	Spike Amount (mg CaCO3/L)	Result (mg CaCO3/L) Q	Dil	% Rec	%Rec Limit	Analysis Date
Alkalinity @ pH 4.5 su	100	100	1	105	90-110	04/21/2022 1841

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - Duplicate

Sample ID: XD20108-006DU

Matrix: Aqueous

Batch: 39015

Analytical Method: SM 2320B-2011

Parameter	Sample Amount (mg CaCO3/L)	Result (mg CaCO3/L) Q	Dil	% RPD	%RPD Limit	Analysis Date
Alkalinity @ pH 4.5 su	ND	ND	1	0.00	20	04/21/2022 1914

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MB

Sample ID: XQ39105-001

Matrix: Aqueous

Batch: 39105

Analytical Method: 9056A

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Nitrate - N	ND		1	0.020	0.0050	mg/L	04/21/2022 1740

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - LCS

Sample ID: XQ39105-002

Matrix: Aqueous

Batch: 39105

Analytical Method: 9056A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Nitrate - N	0.80	0.83		1	104	80-120	04/21/2022 1721

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MS

Sample ID: XD20108-010MS

Matrix: Aqueous

Batch: 39105

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Nitrate - N	0.069	0.40	0.47		1	101	80-120	04/21/2022 2146

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MSD

Sample ID: XD20108-010MD

Matrix: Aqueous

Batch: 39105

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Nitrate - N	0.069	0.40	0.48		1	102	0.72	80-120	20	04/21/2022 2205

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MB

Sample ID: XQ39110-001

Matrix: Aqueous

Batch: 39110

Analytical Method: 9056A

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Sulfate	ND		1	1.0	0.25	mg/L	04/21/2022 1740

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - LCS

Sample ID: XQ39110-002

Matrix: Aqueous

Batch: 39110

Analytical Method: 9056A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Sulfate	20	21		1	106	80-120	04/21/2022 1721

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MS

Sample ID: XD20108-010MS

Matrix: Aqueous

Batch: 39110

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Sulfate	1.0	10	10		1	95	80-120	04/21/2022 2146

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MSD

Sample ID: XD20108-010MD

Matrix: Aqueous

Batch: 39110

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Sulfate	1.0	10	11		1	96	0.96	80-120	20	04/21/2022 2205

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MB

Sample ID: XQ39115-001

Matrix: Aqueous

Batch: 39115

Analytical Method: 9056A

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Chloride	ND		1	1.0	0.25	mg/L	04/21/2022 1740

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - LCS

Sample ID: XQ39115-002

Matrix: Aqueous

Batch: 39115

Analytical Method: 9056A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Chloride	20	20		1	100	80-120	04/21/2022 1721

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MS

Sample ID: XD20108-010MS

Matrix: Aqueous

Batch: 39115

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Chloride	1.8	10	12		1	99	80-120	04/21/2022 2146

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MSD

Sample ID: XD20108-010MD

Matrix: Aqueous

Batch: 39115

Analytical Method: 9056A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Chloride	1.8	10	12		1	100	0.92	80-120	20	04/21/2022 2205

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MB

Sample ID: XQ39372-001

Matrix: Aqueous

Batch: 39372

Analytical Method: SM 4500-S2 F-2011

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Sulfide	ND		1	1.0	1.0	mg/L	04/26/2022 1403

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - LCS

Sample ID: XQ39372-002

Matrix: Aqueous

Batch: 39372

Analytical Method: SM 4500-S2 F-2011

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Sulfide	10	9.2		1	92	80-120	04/26/2022 1403

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MS

Sample ID: XD20108-003MS

Matrix: Aqueous

Batch: 39372

Analytical Method: SM 4500-S2 F-2011

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Sulfide	ND	10	8.1		1	81	70-130	04/26/2022 1403

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MSD

Sample ID: XD20108-003MD

Matrix: Aqueous

Batch: 39372

Analytical Method: SM 4500-S2 F-2011

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Sulfide	ND	10	7.5		1	75	7.6	70-130	20	04/26/2022 1403

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MB

Sample ID: XQ39491-001

Matrix: Aqueous

Batch: 39491

Analytical Method: SM 4500-S2 F-2011

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Sulfide	ND		1	1.0	1.0	mg/L	04/27/2022 1412

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - LCS

Sample ID: XQ39491-002

Matrix: Aqueous

Batch: 39491

Analytical Method: SM 4500-S2 F-2011

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Sulfide	10	9.3		1	93	80-120	04/27/2022 1412

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MS

Sample ID: XD20108-011MS

Matrix: Aqueous

Batch: 39491

Analytical Method: SM 4500-S2 F-2011

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Sulfide	ND	10	6.2	N	1	62	70-130	04/27/2022 1412

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MSD

Sample ID: XD20108-011MD

Matrix: Aqueous

Batch: 39491

Analytical Method: SM 4500-S2 F-2011

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Sulfide	ND	10	6.0	N	1	60	2.6	70-130	20	04/27/2022 1412

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MB

Sample ID: XQ40276-001

Matrix: Aqueous

Batch: 40276

Analytical Method: 9060A

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
TOC	ND		1	1.0	0.42	mg/L	05/03/2022 2029

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - LCS

Sample ID: XQ40276-002

Matrix: Aqueous

Batch: 40276

Analytical Method: 9060A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
TOC	20	19		1	94	90-110	05/03/2022 2053

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MS

Sample ID: XD20108-004MS

Matrix: Aqueous

Batch: 40276

Analytical Method: 9060A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
TOC	2.1	50	46		1	88	70-130	05/04/2022 0310

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MSD

Sample ID: XD20108-004MD

Matrix: Aqueous

Batch: 40276

Analytical Method: 9060A

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
TOC	2.1	50	46		1	88	0.056	70-130	20	05/04/2022 0334

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS (SIM) - MB

Sample ID: XQ39016-001

Matrix: Aqueous

Batch: 39016

Prep Method: 5030B

Analytical Method: 8260D (SIM)

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
1,4-Dioxane	ND		1	3.0	1.0	ug/L	04/21/2022 2226
Surrogate	Q	% Rec	Acceptance Limit				
1,2-Dichloroethane-d4		106	40-170				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS (SIM) - LCS

Sample ID: XQ39016-002

Matrix: Aqueous

Batch: 39016

Prep Method: 5030B

Analytical Method: 8260D (SIM)

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
1,4-Dioxane	50	44		1	88	70-130	04/21/2022 2059
Surrogate	Q	% Rec	Acceptance Limit				
1,2-Dichloroethane-d4		119					

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS (SIM) - LCSD

Sample ID: XQ39016-003

Matrix: Aqueous

Batch: 39016

Prep Method: 5030B

Analytical Method: 8260D (SIM)

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
1,4-Dioxane	50	46		1	92	4.6	70-130	20	04/21/2022 2137
Surrogate	Q	% Rec	Acceptance Limit						
1,2-Dichloroethane-d4		114							

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ39612-001

Matrix: Aqueous

Batch: 39612

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Acetone	ND		1	20	5.0	ug/L	04/27/2022 2224
Benzene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Bromodichloromethane	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Bromoform	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Bromomethane (Methyl bromide)	ND		1	2.0	0.40	ug/L	04/27/2022 2224
2-Butanone (MEK)	ND		1	10	2.0	ug/L	04/27/2022 2224
Carbon disulfide	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Carbon tetrachloride	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Chlorobenzene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Chloroethane	ND		1	2.0	0.40	ug/L	04/27/2022 2224
Chloroform	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Chloromethane (Methyl chloride)	ND		1	1.0	0.50	ug/L	04/27/2022 2224
Cyclohexane	ND		1	1.0	0.40	ug/L	04/27/2022 2224
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Dibromochloromethane	ND		1	1.0	0.40	ug/L	04/27/2022 2224
1,2-Dibromoethane (EDB)	ND		1	1.0	0.40	ug/L	04/27/2022 2224
1,2-Dichlorobenzene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
1,3-Dichlorobenzene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
1,4-Dichlorobenzene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Dichlorodifluoromethane	ND		1	2.0	0.60	ug/L	04/27/2022 2224
1,1-Dichloroethane	ND		1	1.0	0.40	ug/L	04/27/2022 2224
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	04/27/2022 2224
1,1-Dichloroethene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
cis-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
trans-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
1,2-Dichloropropane	ND		1	1.0	0.40	ug/L	04/27/2022 2224
cis-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
trans-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Ethylbenzene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
2-Hexanone	ND		1	10	2.0	ug/L	04/27/2022 2224
Isopropylbenzene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Methyl acetate	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	04/27/2022 2224
4-Methyl-2-pentanone	ND		1	10	2.0	ug/L	04/27/2022 2224
Methylcyclohexane	ND		1	5.0	0.40	ug/L	04/27/2022 2224
Methylene chloride	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Styrene	ND		1	1.0	0.41	ug/L	04/27/2022 2224
1,1,2,2-Tetrachloroethane	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Tetrachloroethene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Toluene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	1.0	0.42	ug/L	04/27/2022 2224
1,2,4-Trichlorobenzene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
1,1,1-Trichloroethane	ND		1	1.0	0.40	ug/L	04/27/2022 2224
1,1,2-Trichloroethane	ND		1	1.0	0.40	ug/L	04/27/2022 2224

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ39612-001

Matrix: Aqueous

Batch: 39612

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Trichloroethene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Trichlorofluoromethane	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Vinyl chloride	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Xylenes (total)	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		93	70-130				
1,2-Dichloroethane-d4		106	70-130				
Toluene-d8		99	70-130				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

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Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ39612-002

Matrix: Aqueous

Batch: 39612

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Acetone	100	90		1	90	60-140	04/27/2022 2119
Benzene	50	48		1	95	70-130	04/27/2022 2119
Bromodichloromethane	50	49		1	99	70-130	04/27/2022 2119
Bromoform	50	53		1	105	70-130	04/27/2022 2119
Bromomethane (Methyl bromide)	50	51		1	103	70-130	04/27/2022 2119
2-Butanone (MEK)	100	100		1	103	70-130	04/27/2022 2119
Carbon disulfide	50	50		1	100	70-130	04/27/2022 2119
Carbon tetrachloride	50	49		1	99	70-130	04/27/2022 2119
Chlorobenzene	50	48		1	96	70-130	04/27/2022 2119
Chloroethane	50	45		1	91	70-130	04/27/2022 2119
Chloroform	50	47		1	94	70-130	04/27/2022 2119
Chloromethane (Methyl chloride)	50	44		1	89	60-140	04/27/2022 2119
Cyclohexane	50	44		1	88	70-130	04/27/2022 2119
1,2-Dibromo-3-chloropropane (DBCP)	50	46		1	93	70-130	04/27/2022 2119
Dibromochloromethane	50	53		1	105	70-130	04/27/2022 2119
1,2-Dibromoethane (EDB)	50	50		1	100	70-130	04/27/2022 2119
1,2-Dichlorobenzene	50	49		1	98	70-130	04/27/2022 2119
1,3-Dichlorobenzene	50	50		1	99	70-130	04/27/2022 2119
1,4-Dichlorobenzene	50	47		1	94	70-130	04/27/2022 2119
Dichlorodifluoromethane	50	48		1	97	60-140	04/27/2022 2119
1,1-Dichloroethane	50	45		1	91	70-130	04/27/2022 2119
1,2-Dichloroethane	50	49		1	99	70-130	04/27/2022 2119
1,1-Dichloroethene	50	50		1	101	70-130	04/27/2022 2119
cis-1,2-Dichloroethene	50	47		1	94	70-130	04/27/2022 2119
trans-1,2-Dichloroethene	50	47		1	94	70-130	04/27/2022 2119
1,2-Dichloropropane	50	48		1	95	70-130	04/27/2022 2119
cis-1,3-Dichloropropene	50	50		1	100	70-130	04/27/2022 2119
trans-1,3-Dichloropropene	50	51		1	102	70-130	04/27/2022 2119
Ethylbenzene	50	51		1	102	70-130	04/27/2022 2119
2-Hexanone	100	100		1	102	70-130	04/27/2022 2119
Isopropylbenzene	50	53		1	107	70-130	04/27/2022 2119
Methyl acetate	50	46		1	93	70-130	04/27/2022 2119
Methyl tertiary butyl ether (MTBE)	50	45		1	91	70-130	04/27/2022 2119
4-Methyl-2-pentanone	100	100		1	100	70-130	04/27/2022 2119
Methylcyclohexane	50	50		1	101	70-130	04/27/2022 2119
Methylene chloride	50	48		1	96	70-130	04/27/2022 2119
Styrene	50	54		1	108	70-130	04/27/2022 2119
1,1,2,2-Tetrachloroethane	50	47		1	95	70-130	04/27/2022 2119
Tetrachloroethene	50	51		1	103	70-130	04/27/2022 2119
Toluene	50	50		1	101	70-130	04/27/2022 2119
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	53		1	106	70-130	04/27/2022 2119
1,2,4-Trichlorobenzene	50	43		1	86	70-130	04/27/2022 2119
1,1,1-Trichloroethane	50	49		1	99	70-130	04/27/2022 2119
1,1,2-Trichloroethane	50	49		1	97	70-130	04/27/2022 2119

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ39612-002

Matrix: Aqueous

Batch: 39612

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Trichloroethene	50	50		1	99	70-130	04/27/2022 2119
Trichlorofluoromethane	50	55		1	111	70-130	04/27/2022 2119
Vinyl chloride	50	50		1	100	70-130	04/27/2022 2119
Xylenes (total)	100	100		1	103	70-130	04/27/2022 2119
Surrogate	Q	% Rec			Acceptance Limit		
Bromofluorobenzene		95			70-130		
1,2-Dichloroethane-d4		96			70-130		
Toluene-d8		97			70-130		

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS (SIM) - MB

Sample ID: XQ39725-001

Matrix: Aqueous

Batch: 39725

Prep Method: 5030B

Analytical Method: 8260D (SIM)

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
1,4-Dioxane	ND		1	3.0	1.0	ug/L	04/28/2022 1451
Surrogate	Q	% Rec	Acceptance Limit				
1,2-Dichloroethane-d4		104	40-170				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS (SIM) - LCS

Sample ID: XQ39725-002

Matrix: Aqueous

Batch: 39725

Prep Method: 5030B

Analytical Method: 8260D (SIM)

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
1,4-Dioxane	50	47		1	93	70-130	04/28/2022 1403
Surrogate	Q	% Rec	Acceptance Limit				
1,2-Dichloroethane-d4	106	40-170					

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS (SIM) - MS

Sample ID: XD20108-006MS

Matrix: Aqueous

Batch: 39725

Prep Method: 5030B

Analytical Method: 8260D (SIM)

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
1,4-Dioxane	240	250	450		5	84	70-130	04/28/2022 1957
Surrogate	Q	% Rec	Acceptance Limit					
1,2-Dichloroethane-d4		108	40-170					

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS (SIM) - MSD

Sample ID: XD20108-006MD

Matrix: Aqueous

Batch: 39725

Prep Method: 5030B

Analytical Method: 8260D (SIM)

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
1,4-Dioxane	240	250	400	N	5	64	12	70-130	20	04/28/2022 2021
Surrogate	Q	% Rec	Acceptance Limit							
1,2-Dichloroethane-d4		106	40-170							

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ39779-001

Matrix: Aqueous

Batch: 39779

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Acetone	ND		1	20	5.0	ug/L	04/28/2022 2239
Benzene	ND		1	1.0	0.40	ug/L	04/28/2022 2239
Bromodichloromethane	ND		1	1.0	0.40	ug/L	04/28/2022 2239
Bromoform	ND		1	1.0	0.40	ug/L	04/28/2022 2239
Bromomethane (Methyl bromide)	ND		1	2.0	0.40	ug/L	04/28/2022 2239
2-Butanone (MEK)	ND		1	10	2.0	ug/L	04/28/2022 2239
Carbon disulfide	ND		1	1.0	0.40	ug/L	04/28/2022 2239
Carbon tetrachloride	ND		1	1.0	0.40	ug/L	04/28/2022 2239
Chlorobenzene	ND		1	1.0	0.40	ug/L	04/28/2022 2239
Chloroethane	ND		1	2.0	0.40	ug/L	04/28/2022 2239
Chloroform	ND		1	1.0	0.40	ug/L	04/28/2022 2239
Chloromethane (Methyl chloride)	ND		1	1.0	0.50	ug/L	04/28/2022 2239
Cyclohexane	ND		1	1.0	0.40	ug/L	04/28/2022 2239
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	1.0	0.40	ug/L	04/28/2022 2239
Dibromochloromethane	ND		1	1.0	0.40	ug/L	04/28/2022 2239
1,2-Dibromoethane (EDB)	ND		1	1.0	0.40	ug/L	04/28/2022 2239
1,2-Dichlorobenzene	ND		1	1.0	0.40	ug/L	04/28/2022 2239
1,3-Dichlorobenzene	ND		1	1.0	0.40	ug/L	04/28/2022 2239
1,4-Dichlorobenzene	ND		1	1.0	0.40	ug/L	04/28/2022 2239
Dichlorodifluoromethane	ND		1	2.0	0.60	ug/L	04/28/2022 2239
1,1-Dichloroethane	ND		1	1.0	0.40	ug/L	04/28/2022 2239
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	04/28/2022 2239
1,1-Dichloroethene	ND		1	1.0	0.40	ug/L	04/28/2022 2239
cis-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	04/28/2022 2239
trans-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	04/28/2022 2239
1,2-Dichloropropane	ND		1	1.0	0.40	ug/L	04/28/2022 2239
cis-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	04/28/2022 2239
trans-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	04/28/2022 2239
Ethylbenzene	ND		1	1.0	0.40	ug/L	04/28/2022 2239
2-Hexanone	ND		1	10	2.0	ug/L	04/28/2022 2239
Isopropylbenzene	ND		1	1.0	0.40	ug/L	04/28/2022 2239
Methyl acetate	ND		1	1.0	0.40	ug/L	04/28/2022 2239
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	04/28/2022 2239
4-Methyl-2-pentanone	ND		1	10	2.0	ug/L	04/28/2022 2239
Methylcyclohexane	ND		1	5.0	0.40	ug/L	04/28/2022 2239
Methylene chloride	ND		1	1.0	0.40	ug/L	04/28/2022 2239
Styrene	ND		1	1.0	0.41	ug/L	04/28/2022 2239
1,1,2,2-Tetrachloroethane	ND		1	1.0	0.40	ug/L	04/28/2022 2239
Tetrachloroethene	ND		1	1.0	0.40	ug/L	04/28/2022 2239
Toluene	ND		1	1.0	0.40	ug/L	04/28/2022 2239
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	1.0	0.42	ug/L	04/28/2022 2239
1,2,4-Trichlorobenzene	ND		1	1.0	0.40	ug/L	04/28/2022 2239
1,1,1-Trichloroethane	ND		1	1.0	0.40	ug/L	04/28/2022 2239
1,1,2-Trichloroethane	ND		1	1.0	0.40	ug/L	04/28/2022 2239

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

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J = Estimated result < LOQ and ≥ DL

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

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Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ39779-001

Matrix: Aqueous

Batch: 39779

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Trichloroethene	ND		1	1.0	0.40	ug/L	04/28/2022 2239
Trichlorofluoromethane	ND		1	1.0	0.40	ug/L	04/28/2022 2239
Vinyl chloride	ND		1	1.0	0.40	ug/L	04/28/2022 2239
Xylenes (total)	ND		1	1.0	0.40	ug/L	04/28/2022 2239
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		94	70-130				
1,2-Dichloroethane-d4		113	70-130				
Toluene-d8		101	70-130				

LOQ = Limit of Quantitation

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DL = Detection Limit

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P = The RPD between two GC columns exceeds 40%

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Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ39779-002

Matrix: Aqueous

Batch: 39779

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Acetone	100	97		1	97	60-140	04/28/2022 2135
Benzene	50	47		1	94	70-130	04/28/2022 2135
Bromodichloromethane	50	47		1	94	70-130	04/28/2022 2135
Bromoform	50	48		1	96	70-130	04/28/2022 2135
Bromomethane (Methyl bromide)	50	43		1	87	70-130	04/28/2022 2135
2-Butanone (MEK)	100	93		1	93	70-130	04/28/2022 2135
Carbon disulfide	50	46		1	91	70-130	04/28/2022 2135
Carbon tetrachloride	50	47		1	95	70-130	04/28/2022 2135
Chlorobenzene	50	47		1	94	70-130	04/28/2022 2135
Chloroethane	50	38		1	76	70-130	04/28/2022 2135
Chloroform	50	46		1	91	70-130	04/28/2022 2135
Chloromethane (Methyl chloride)	50	36		1	72	60-140	04/28/2022 2135
Cyclohexane	50	53		1	105	70-130	04/28/2022 2135
1,2-Dibromo-3-chloropropane (DBCP)	50	50		1	101	70-130	04/28/2022 2135
Dibromochloromethane	50	49		1	99	70-130	04/28/2022 2135
1,2-Dibromoethane (EDB)	50	49		1	98	70-130	04/28/2022 2135
1,2-Dichlorobenzene	50	48		1	96	70-130	04/28/2022 2135
1,3-Dichlorobenzene	50	49		1	98	70-130	04/28/2022 2135
1,4-Dichlorobenzene	50	49		1	98	70-130	04/28/2022 2135
Dichlorodifluoromethane	50	30		1	60	60-140	04/28/2022 2135
1,1-Dichloroethane	50	47		1	95	70-130	04/28/2022 2135
1,2-Dichloroethane	50	46		1	91	70-130	04/28/2022 2135
1,1-Dichloroethene	50	48		1	97	70-130	04/28/2022 2135
cis-1,2-Dichloroethene	50	47		1	94	70-130	04/28/2022 2135
trans-1,2-Dichloroethene	50	47		1	93	70-130	04/28/2022 2135
1,2-Dichloropropane	50	47		1	95	70-130	04/28/2022 2135
cis-1,3-Dichloropropene	50	47		1	93	70-130	04/28/2022 2135
trans-1,3-Dichloropropene	50	49		1	98	70-130	04/28/2022 2135
Ethylbenzene	50	51		1	103	70-130	04/28/2022 2135
2-Hexanone	100	110		1	107	70-130	04/28/2022 2135
Isopropylbenzene	50	55		1	109	70-130	04/28/2022 2135
Methyl acetate	50	54		1	108	70-130	04/28/2022 2135
Methyl tertiary butyl ether (MTBE)	50	53		1	106	70-130	04/28/2022 2135
4-Methyl-2-pentanone	100	100		1	101	70-130	04/28/2022 2135
Methylcyclohexane	50	52		1	104	70-130	04/28/2022 2135
Methylene chloride	50	47		1	94	70-130	04/28/2022 2135
Styrene	50	48		1	95	70-130	04/28/2022 2135
1,1,2,2-Tetrachloroethane	50	51		1	102	70-130	04/28/2022 2135
Tetrachloroethene	50	48		1	96	70-130	04/28/2022 2135
Toluene	50	52		1	104	70-130	04/28/2022 2135
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	50		1	99	70-130	04/28/2022 2135
1,2,4-Trichlorobenzene	50	48		1	96	70-130	04/28/2022 2135
1,1,1-Trichloroethane	50	49		1	98	70-130	04/28/2022 2135
1,1,2-Trichloroethane	50	48		1	97	70-130	04/28/2022 2135

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DL = Detection Limit

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P = The RPD between two GC columns exceeds 40%

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+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ39779-002

Matrix: Aqueous

Batch: 39779

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Trichloroethene	50	44		1	88	70-130	04/28/2022 2135
Trichlorofluoromethane	50	39		1	79	70-130	04/28/2022 2135
Vinyl chloride	50	39		1	78	70-130	04/28/2022 2135
Xylenes (total)	100	110		1	106	70-130	04/28/2022 2135
Surrogate	Q	% Rec			Acceptance Limit		
Bromofluorobenzene		95			70-130		
1,2-Dichloroethane-d4		96			70-130		
Toluene-d8		97			70-130		

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ39876-001

Matrix: Aqueous

Batch: 39876

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Acetone	ND		1	20	5.0	ug/L	04/29/2022 1049
Benzene	ND		1	1.0	0.40	ug/L	04/29/2022 1049
Bromodichloromethane	ND		1	1.0	0.40	ug/L	04/29/2022 1049
Bromoform	ND		1	1.0	0.40	ug/L	04/29/2022 1049
Bromomethane (Methyl bromide)	ND		1	2.0	0.40	ug/L	04/29/2022 1049
2-Butanone (MEK)	ND		1	10	2.0	ug/L	04/29/2022 1049
Carbon disulfide	ND		1	1.0	0.40	ug/L	04/29/2022 1049
Carbon tetrachloride	ND		1	1.0	0.40	ug/L	04/29/2022 1049
Chlorobenzene	ND		1	1.0	0.40	ug/L	04/29/2022 1049
Chloroethane	ND		1	2.0	0.40	ug/L	04/29/2022 1049
Chloroform	ND		1	1.0	0.40	ug/L	04/29/2022 1049
Chloromethane (Methyl chloride)	ND		1	1.0	0.50	ug/L	04/29/2022 1049
Cyclohexane	ND		1	1.0	0.40	ug/L	04/29/2022 1049
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	1.0	0.40	ug/L	04/29/2022 1049
Dibromochloromethane	ND		1	1.0	0.40	ug/L	04/29/2022 1049
1,2-Dibromoethane (EDB)	ND		1	1.0	0.40	ug/L	04/29/2022 1049
1,2-Dichlorobenzene	ND		1	1.0	0.40	ug/L	04/29/2022 1049
1,3-Dichlorobenzene	ND		1	1.0	0.40	ug/L	04/29/2022 1049
1,4-Dichlorobenzene	ND		1	1.0	0.40	ug/L	04/29/2022 1049
Dichlorodifluoromethane	ND		1	2.0	0.60	ug/L	04/29/2022 1049
1,1-Dichloroethane	ND		1	1.0	0.40	ug/L	04/29/2022 1049
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	04/29/2022 1049
1,1-Dichloroethene	ND		1	1.0	0.40	ug/L	04/29/2022 1049
cis-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	04/29/2022 1049
trans-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	04/29/2022 1049
1,2-Dichloropropane	ND		1	1.0	0.40	ug/L	04/29/2022 1049
cis-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	04/29/2022 1049
trans-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	04/29/2022 1049
Ethylbenzene	ND		1	1.0	0.40	ug/L	04/29/2022 1049
2-Hexanone	ND		1	10	2.0	ug/L	04/29/2022 1049
Isopropylbenzene	ND		1	1.0	0.40	ug/L	04/29/2022 1049
Methyl acetate	ND		1	1.0	0.40	ug/L	04/29/2022 1049
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	04/29/2022 1049
4-Methyl-2-pentanone	ND		1	10	2.0	ug/L	04/29/2022 1049
Methylcyclohexane	ND		1	5.0	0.40	ug/L	04/29/2022 1049
Methylene chloride	ND		1	1.0	0.40	ug/L	04/29/2022 1049
Styrene	ND		1	1.0	0.41	ug/L	04/29/2022 1049
1,1,2,2-Tetrachloroethane	ND		1	1.0	0.40	ug/L	04/29/2022 1049
Tetrachloroethene	ND		1	1.0	0.40	ug/L	04/29/2022 1049
Toluene	ND		1	1.0	0.40	ug/L	04/29/2022 1049
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	1.0	0.42	ug/L	04/29/2022 1049
1,2,4-Trichlorobenzene	ND		1	1.0	0.40	ug/L	04/29/2022 1049
1,1,1-Trichloroethane	ND		1	1.0	0.40	ug/L	04/29/2022 1049
1,1,2-Trichloroethane	ND		1	1.0	0.40	ug/L	04/29/2022 1049

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P = The RPD between two GC columns exceeds 40%

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+ = RPD is out of criteria

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

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

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Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ39876-001

Matrix: Aqueous

Batch: 39876

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Trichloroethene	ND		1	1.0	0.40	ug/L	04/29/2022 1049
Trichlorofluoromethane	ND		1	1.0	0.40	ug/L	04/29/2022 1049
Vinyl chloride	ND		1	1.0	0.40	ug/L	04/29/2022 1049
Xylenes (total)	ND		1	1.0	0.40	ug/L	04/29/2022 1049
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		99	70-130				
1,2-Dichloroethane-d4		116	70-130				
Toluene-d8		103	70-130				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ39876-002

Matrix: Aqueous

Batch: 39876

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Acetone	100	110		1	111	60-140	04/29/2022 0932
Benzene	50	49		1	98	70-130	04/29/2022 0932
Bromodichloromethane	50	49		1	98	70-130	04/29/2022 0932
Bromoform	50	50		1	100	70-130	04/29/2022 0932
Bromomethane (Methyl bromide)	50	54		1	108	70-130	04/29/2022 0932
2-Butanone (MEK)	100	97		1	97	70-130	04/29/2022 0932
Carbon disulfide	50	48		1	95	70-130	04/29/2022 0932
Carbon tetrachloride	50	49		1	98	70-130	04/29/2022 0932
Chlorobenzene	50	49		1	98	70-130	04/29/2022 0932
Chloroethane	50	46		1	92	70-130	04/29/2022 0932
Chloroform	50	46		1	93	70-130	04/29/2022 0932
Chloromethane (Methyl chloride)	50	48		1	95	60-140	04/29/2022 0932
Cyclohexane	50	55		1	109	70-130	04/29/2022 0932
1,2-Dibromo-3-chloropropane (DBCP)	50	52		1	103	70-130	04/29/2022 0932
Dibromochloromethane	50	52		1	103	70-130	04/29/2022 0932
1,2-Dibromoethane (EDB)	50	52		1	104	70-130	04/29/2022 0932
1,2-Dichlorobenzene	50	49		1	98	70-130	04/29/2022 0932
1,3-Dichlorobenzene	50	51		1	101	70-130	04/29/2022 0932
1,4-Dichlorobenzene	50	51		1	102	70-130	04/29/2022 0932
Dichlorodifluoromethane	50	47		1	93	60-140	04/29/2022 0932
1,1-Dichloroethane	50	49		1	99	70-130	04/29/2022 0932
1,2-Dichloroethane	50	48		1	96	70-130	04/29/2022 0932
1,1-Dichloroethene	50	49		1	99	70-130	04/29/2022 0932
cis-1,2-Dichloroethene	50	47		1	95	70-130	04/29/2022 0932
trans-1,2-Dichloroethene	50	47		1	95	70-130	04/29/2022 0932
1,2-Dichloropropane	50	50		1	101	70-130	04/29/2022 0932
cis-1,3-Dichloropropene	50	48		1	96	70-130	04/29/2022 0932
trans-1,3-Dichloropropene	50	51		1	102	70-130	04/29/2022 0932
Ethylbenzene	50	53		1	107	70-130	04/29/2022 0932
2-Hexanone	100	120		1	120	70-130	04/29/2022 0932
Isopropylbenzene	50	57		1	113	70-130	04/29/2022 0932
Methyl acetate	50	58		1	116	70-130	04/29/2022 0932
Methyl tertiary butyl ether (MTBE)	50	54		1	109	70-130	04/29/2022 0932
4-Methyl-2-pentanone	100	110		1	110	70-130	04/29/2022 0932
Methylcyclohexane	50	53		1	105	70-130	04/29/2022 0932
Methylene chloride	50	49		1	97	70-130	04/29/2022 0932
Styrene	50	51		1	102	70-130	04/29/2022 0932
1,1,2,2-Tetrachloroethane	50	53		1	107	70-130	04/29/2022 0932
Tetrachloroethene	50	50		1	101	70-130	04/29/2022 0932
Toluene	50	54		1	107	70-130	04/29/2022 0932
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	49		1	98	70-130	04/29/2022 0932
1,2,4-Trichlorobenzene	50	48		1	96	70-130	04/29/2022 0932
1,1,1-Trichloroethane	50	50		1	100	70-130	04/29/2022 0932
1,1,2-Trichloroethane	50	50		1	100	70-130	04/29/2022 0932

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

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

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Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ39876-002

Matrix: Aqueous

Batch: 39876

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Trichloroethene	50	45		1	90	70-130	04/29/2022 0932
Trichlorofluoromethane	50	49		1	98	70-130	04/29/2022 0932
Vinyl chloride	50	49		1	98	70-130	04/29/2022 0932
Xylenes (total)	100	110		1	109	70-130	04/29/2022 0932
Surrogate	Q	% Rec			Acceptance Limit		
Bromofluorobenzene		97			70-130		
1,2-Dichloroethane-d4		96			70-130		
Toluene-d8		97			70-130		

LOQ = Limit of Quantitation

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J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

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Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ39889-001

Matrix: Aqueous

Batch: 39889

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Acetone	ND		1	20	5.0	ug/L	04/29/2022 1215
Benzene	ND		1	1.0	0.40	ug/L	04/29/2022 1215
Bromodichloromethane	ND		1	1.0	0.40	ug/L	04/29/2022 1215
Bromoform	ND		1	1.0	0.40	ug/L	04/29/2022 1215
Bromomethane (Methyl bromide)	ND		1	2.0	0.40	ug/L	04/29/2022 1215
2-Butanone (MEK)	ND		1	10	2.0	ug/L	04/29/2022 1215
Carbon disulfide	ND		1	1.0	0.40	ug/L	04/29/2022 1215
Carbon tetrachloride	ND		1	1.0	0.40	ug/L	04/29/2022 1215
Chlorobenzene	ND		1	1.0	0.40	ug/L	04/29/2022 1215
Chloroethane	ND		1	2.0	0.40	ug/L	04/29/2022 1215
Chloroform	ND		1	1.0	0.40	ug/L	04/29/2022 1215
Chloromethane (Methyl chloride)	ND		1	1.0	0.50	ug/L	04/29/2022 1215
Cyclohexane	ND		1	1.0	0.40	ug/L	04/29/2022 1215
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	1.0	0.40	ug/L	04/29/2022 1215
Dibromochloromethane	ND		1	1.0	0.40	ug/L	04/29/2022 1215
1,2-Dibromoethane (EDB)	ND		1	1.0	0.40	ug/L	04/29/2022 1215
1,2-Dichlorobenzene	ND		1	1.0	0.40	ug/L	04/29/2022 1215
1,3-Dichlorobenzene	ND		1	1.0	0.40	ug/L	04/29/2022 1215
1,4-Dichlorobenzene	ND		1	1.0	0.40	ug/L	04/29/2022 1215
Dichlorodifluoromethane	ND		1	2.0	0.60	ug/L	04/29/2022 1215
1,1-Dichloroethane	ND		1	1.0	0.40	ug/L	04/29/2022 1215
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	04/29/2022 1215
1,1-Dichloroethene	ND		1	1.0	0.40	ug/L	04/29/2022 1215
cis-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	04/29/2022 1215
trans-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	04/29/2022 1215
1,2-Dichloropropane	ND		1	1.0	0.40	ug/L	04/29/2022 1215
cis-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	04/29/2022 1215
trans-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	04/29/2022 1215
Ethylbenzene	ND		1	1.0	0.40	ug/L	04/29/2022 1215
2-Hexanone	ND		1	10	2.0	ug/L	04/29/2022 1215
Isopropylbenzene	ND		1	1.0	0.40	ug/L	04/29/2022 1215
Methyl acetate	ND		1	1.0	0.40	ug/L	04/29/2022 1215
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	04/29/2022 1215
4-Methyl-2-pentanone	ND		1	10	2.0	ug/L	04/29/2022 1215
Methylcyclohexane	ND		1	5.0	0.40	ug/L	04/29/2022 1215
Methylene chloride	ND		1	1.0	0.40	ug/L	04/29/2022 1215
Styrene	ND		1	1.0	0.41	ug/L	04/29/2022 1215
1,1,2,2-Tetrachloroethane	ND		1	1.0	0.40	ug/L	04/29/2022 1215
Tetrachloroethene	ND		1	1.0	0.40	ug/L	04/29/2022 1215
Toluene	ND		1	1.0	0.40	ug/L	04/29/2022 1215
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	1.0	0.42	ug/L	04/29/2022 1215
1,2,4-Trichlorobenzene	ND		1	1.0	0.40	ug/L	04/29/2022 1215
1,1,1-Trichloroethane	ND		1	1.0	0.40	ug/L	04/29/2022 1215
1,1,2-Trichloroethane	ND		1	1.0	0.40	ug/L	04/29/2022 1215

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J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

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

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

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Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ39889-001

Matrix: Aqueous

Batch: 39889

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Trichloroethene	ND		1	1.0	0.40	ug/L	04/29/2022 1215
Trichlorofluoromethane	ND		1	1.0	0.40	ug/L	04/29/2022 1215
Vinyl chloride	ND		1	1.0	0.40	ug/L	04/29/2022 1215
Xylenes (total)	ND		1	1.0	0.40	ug/L	04/29/2022 1215
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		101	70-130				
1,2-Dichloroethane-d4		95	70-130				
Toluene-d8		97	70-130				

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Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ39889-002

Matrix: Aqueous

Batch: 39889

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Acetone	100	82		1	82	60-140	04/29/2022 1003
Benzene	50	46		1	93	70-130	04/29/2022 1003
Bromodichloromethane	50	46		1	92	70-130	04/29/2022 1003
Bromoform	50	39		1	78	70-130	04/29/2022 1003
Bromomethane (Methyl bromide)	50	52		1	104	70-130	04/29/2022 1003
2-Butanone (MEK)	100	100		1	102	70-130	04/29/2022 1003
Carbon disulfide	50	47		1	94	70-130	04/29/2022 1003
Carbon tetrachloride	50	45		1	90	70-130	04/29/2022 1003
Chlorobenzene	50	47		1	95	70-130	04/29/2022 1003
Chloroethane	50	50		1	100	70-130	04/29/2022 1003
Chloroform	50	44		1	89	70-130	04/29/2022 1003
Chloromethane (Methyl chloride)	50	51		1	102	60-140	04/29/2022 1003
Cyclohexane	50	41		1	82	70-130	04/29/2022 1003
1,2-Dibromo-3-chloropropane (DBCP)	50	53		1	106	70-130	04/29/2022 1003
Dibromochloromethane	50	50		1	99	70-130	04/29/2022 1003
1,2-Dibromoethane (EDB)	50	53		1	105	70-130	04/29/2022 1003
1,2-Dichlorobenzene	50	49		1	99	70-130	04/29/2022 1003
1,3-Dichlorobenzene	50	50		1	101	70-130	04/29/2022 1003
1,4-Dichlorobenzene	50	48		1	97	70-130	04/29/2022 1003
Dichlorodifluoromethane	50	54		1	108	60-140	04/29/2022 1003
1,1-Dichloroethane	50	46		1	92	70-130	04/29/2022 1003
1,2-Dichloroethane	50	45		1	91	70-130	04/29/2022 1003
1,1-Dichloroethene	50	48		1	95	70-130	04/29/2022 1003
cis-1,2-Dichloroethene	50	46		1	93	70-130	04/29/2022 1003
trans-1,2-Dichloroethene	50	48		1	96	70-130	04/29/2022 1003
1,2-Dichloropropane	50	46		1	92	70-130	04/29/2022 1003
cis-1,3-Dichloropropene	50	44		1	89	70-130	04/29/2022 1003
trans-1,3-Dichloropropene	50	43		1	87	70-130	04/29/2022 1003
Ethylbenzene	50	50		1	100	70-130	04/29/2022 1003
2-Hexanone	100	100		1	104	70-130	04/29/2022 1003
Isopropylbenzene	50	53		1	105	70-130	04/29/2022 1003
Methyl acetate	50	54		1	108	70-130	04/29/2022 1003
Methyl tertiary butyl ether (MTBE)	50	51		1	102	70-130	04/29/2022 1003
4-Methyl-2-pentanone	100	100		1	103	70-130	04/29/2022 1003
Methylcyclohexane	50	48		1	96	70-130	04/29/2022 1003
Methylene chloride	50	45		1	89	70-130	04/29/2022 1003
Styrene	50	55		1	110	70-130	04/29/2022 1003
1,1,2,2-Tetrachloroethane	50	57		1	113	70-130	04/29/2022 1003
Tetrachloroethene	50	47		1	93	70-130	04/29/2022 1003
Toluene	50	49		1	98	70-130	04/29/2022 1003
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	48		1	96	70-130	04/29/2022 1003
1,2,4-Trichlorobenzene	50	52		1	104	70-130	04/29/2022 1003
1,1,1-Trichloroethane	50	45		1	90	70-130	04/29/2022 1003
1,1,2-Trichloroethane	50	48		1	96	70-130	04/29/2022 1003

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Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ39889-002

Matrix: Aqueous

Batch: 39889

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Trichloroethene	50	45		1	90	70-130	04/29/2022 1003
Trichlorofluoromethane	50	52		1	103	70-130	04/29/2022 1003
Vinyl chloride	50	58		1	117	70-130	04/29/2022 1003
Xylenes (total)	100	110		1	106	70-130	04/29/2022 1003
Surrogate	Q	% Rec			Acceptance Limit		
Bromofluorobenzene		96			70-130		
1,2-Dichloroethane-d4		85			70-130		
Toluene-d8		87			70-130		

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MS

Sample ID: XD20108-006MS

Matrix: Aqueous

Batch: 39889

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Acetone	ND	20000	15000		200	77	60-140	04/29/2022 1924
Benzene	ND	10000	9700		200	97	70-130	04/29/2022 1924
Bromodichloromethane	ND	10000	9900		200	99	70-130	04/29/2022 1924
Bromoform	ND	10000	8200		200	82	70-130	04/29/2022 1924
Bromomethane (Methyl bromide)	ND	10000	13000	N	200	131	70-130	04/29/2022 1924
2-Butanone (MEK)	ND	20000	20000		200	100	70-130	04/29/2022 1924
Carbon disulfide	ND	10000	8600		200	86	70-130	04/29/2022 1924
Carbon tetrachloride	ND	10000	9700		200	97	70-130	04/29/2022 1924
Chlorobenzene	ND	10000	10000		200	100	70-130	04/29/2022 1924
Chloroethane	ND	10000	11000		200	108	70-130	04/29/2022 1924
Chloroform	ND	10000	9300		200	93	70-130	04/29/2022 1924
Chloromethane (Methyl chloride)	ND	10000	11000		200	105	60-140	04/29/2022 1924
Cyclohexane	ND	10000	8500		200	85	70-130	04/29/2022 1924
1,2-Dibromo-3-chloropropane (DBCP)	ND	10000	10000		200	102	70-130	04/29/2022 1924
Dibromochloromethane	ND	10000	10000		200	104	70-130	04/29/2022 1924
1,2-Dibromoethane (EDB)	ND	10000	11000		200	109	70-130	04/29/2022 1924
1,2-Dichlorobenzene	ND	10000	10000		200	102	70-130	04/29/2022 1924
1,3-Dichlorobenzene	ND	10000	11000		200	105	70-130	04/29/2022 1924
1,4-Dichlorobenzene	ND	10000	10000		200	101	70-130	04/29/2022 1924
Dichlorodifluoromethane	ND	10000	13000		200	133	60-140	04/29/2022 1924
1,1-Dichloroethane	960	10000	10000		200	91	70-130	04/29/2022 1924
1,2-Dichloroethane	ND	10000	10000		200	100	70-130	04/29/2022 1924
1,1-Dichloroethene	400	10000	9900		200	95	70-130	04/29/2022 1924
cis-1,2-Dichloroethene	16000	10000	25000		200	91	70-130	04/29/2022 1924
trans-1,2-Dichloroethene	130	10000	9600		200	95	70-130	04/29/2022 1924
1,2-Dichloropropane	ND	10000	9400		200	94	70-130	04/29/2022 1924
cis-1,3-Dichloropropene	ND	10000	9000		200	90	70-130	04/29/2022 1924
trans-1,3-Dichloropropene	ND	10000	8900		200	89	70-130	04/29/2022 1924
Ethylbenzene	330	10000	11000		200	107	70-130	04/29/2022 1924
2-Hexanone	ND	20000	21000		200	106	70-130	04/29/2022 1924
Isopropylbenzene	ND	10000	11000		200	112	70-130	04/29/2022 1924
Methyl acetate	ND	10000	9700		200	97	70-130	04/29/2022 1924
Methyl tertiary butyl ether (MTBE)	ND	10000	9100		200	91	70-130	04/29/2022 1924
4-Methyl-2-pentanone	ND	20000	21000		200	103	70-130	04/29/2022 1924
Methylcyclohexane	ND	10000	10000		200	100	70-130	04/29/2022 1924
Methylene chloride	ND	10000	8500		200	85	70-130	04/29/2022 1924
Styrene	ND	10000	11000		200	114	70-130	04/29/2022 1924
1,1,2,2-Tetrachloroethane	ND	10000	11000		200	107	70-130	04/29/2022 1924
Tetrachloroethene	ND	10000	10000		200	103	70-130	04/29/2022 1924
Toluene	120	10000	11000		200	104	70-130	04/29/2022 1924
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10000	9800		200	98	70-130	04/29/2022 1924
1,2,4-Trichlorobenzene	ND	10000	9600		200	96	70-130	04/29/2022 1924
1,1,1-Trichloroethane	ND	10000	9700		200	97	70-130	04/29/2022 1924
1,1,2-Trichloroethane	ND	10000	10000		200	102	70-130	04/29/2022 1924

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MS

Sample ID: XD20108-006MS

Matrix: Aqueous

Batch: 39889

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Trichloroethene	ND	10000	9900		200	99	70-130	04/29/2022 1924
Trichlorofluoromethane	ND	10000	11000		200	114	70-130	04/29/2022 1924
Vinyl chloride	1300	10000	15000	N	200	139	70-130	04/29/2022 1924
Xylenes (total)	1300	20000	23000		200	111	70-130	04/29/2022 1924
Surrogate	Q	% Rec	Acceptance Limit					
Bromofluorobenzene		100	70-130					
1,2-Dichloroethane-d4		94	70-130					
Toluene-d8		93	70-130					

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MSD

Sample ID: XD20108-006MD

Matrix: Aqueous

Batch: 39889

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Acetone	ND	20000	16000		200	79	2.6	60-140	20	04/29/2022 1947
Benzene	ND	10000	9800		200	98	1.1	70-130	20	04/29/2022 1947
Bromodichloromethane	ND	10000	10000		200	102	2.3	70-130	20	04/29/2022 1947
Bromoform	ND	10000	8700		200	87	6.0	70-130	20	04/29/2022 1947
Bromomethane (Methyl bromide)	ND	10000	13000		200	129	1.2	70-130	20	04/29/2022 1947
2-Butanone (MEK)	ND	20000	20000		200	102	1.9	70-130	20	04/29/2022 1947
Carbon disulfide	ND	10000	9200		200	92	6.2	70-130	20	04/29/2022 1947
Carbon tetrachloride	ND	10000	10000		200	104	6.7	70-130	20	04/29/2022 1947
Chlorobenzene	ND	10000	10000		200	102	2.0	70-130	20	04/29/2022 1947
Chloroethane	ND	10000	11000		200	109	1.2	70-130	20	04/29/2022 1947
Chloroform	ND	10000	9400		200	94	1.3	70-130	20	04/29/2022 1947
Chloromethane (Methyl chloride)	ND	10000	11000		200	109	3.5	60-140	20	04/29/2022 1947
Cyclohexane	ND	10000	9000		200	90	6.2	70-130	20	04/29/2022 1947
1,2-Dibromo-3-chloropropane (DBCP)	ND	10000	11000		200	114	11	70-130	20	04/29/2022 1947
Dibromochloromethane	ND	10000	11000		200	108	3.8	70-130	20	04/29/2022 1947
1,2-Dibromoethane (EDB)	ND	10000	11000		200	107	1.3	70-130	20	04/29/2022 1947
1,2-Dichlorobenzene	ND	10000	10000		200	104	1.8	70-130	20	04/29/2022 1947
1,3-Dichlorobenzene	ND	10000	11000		200	106	0.71	70-130	20	04/29/2022 1947
1,4-Dichlorobenzene	ND	10000	10000		200	102	1.0	70-130	20	04/29/2022 1947
Dichlorodifluoromethane	ND	10000	14000	N	200	142	6.4	60-140	20	04/29/2022 1947
1,1-Dichloroethane	960	10000	10000		200	93	2.1	70-130	20	04/29/2022 1947
1,2-Dichloroethane	ND	10000	10000		200	100	0.31	70-130	20	04/29/2022 1947
1,1-Dichloroethene	400	10000	10000		200	98	2.5	70-130	20	04/29/2022 1947
cis-1,2-Dichloroethene	16000	10000	25000		200	95	1.6	70-130	20	04/29/2022 1947
trans-1,2-Dichloroethene	130	10000	9800		200	97	2.0	70-130	20	04/29/2022 1947
1,2-Dichloropropane	ND	10000	9600		200	96	1.7	70-130	20	04/29/2022 1947
cis-1,3-Dichloropropene	ND	10000	9300		200	93	3.0	70-130	20	04/29/2022 1947
trans-1,3-Dichloropropene	ND	10000	9200		200	92	3.6	70-130	20	04/29/2022 1947
Ethylbenzene	330	10000	11000		200	110	2.3	70-130	20	04/29/2022 1947
2-Hexanone	ND	20000	21000		200	106	0.17	70-130	20	04/29/2022 1947
Isopropylbenzene	ND	10000	12000		200	116	3.0	70-130	20	04/29/2022 1947
Methyl acetate	ND	10000	9500		200	95	2.0	70-130	20	04/29/2022 1947
Methyl tertiary butyl ether (MTBE)	ND	10000	9600		200	96	5.7	70-130	20	04/29/2022 1947
4-Methyl-2-pentanone	ND	20000	21000		200	103	0.81	70-130	20	04/29/2022 1947
Methylcyclohexane	ND	10000	10000		200	105	4.4	70-130	20	04/29/2022 1947
Methylene chloride	ND	10000	8600		200	86	1.4	70-130	20	04/29/2022 1947
Styrene	ND	10000	11000		200	115	1.0	70-130	20	04/29/2022 1947
1,1,2,2-Tetrachloroethane	ND	10000	11000		200	108	1.1	70-130	20	04/29/2022 1947
Tetrachloroethene	ND	10000	11000		200	106	2.4	70-130	20	04/29/2022 1947
Toluene	120	10000	11000		200	106	1.7	70-130	20	04/29/2022 1947
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10000	10000		200	101	3.6	70-130	20	04/29/2022 1947
1,2,4-Trichlorobenzene	ND	10000	11000		200	106	9.9	70-130	20	04/29/2022 1947
1,1,1-Trichloroethane	ND	10000	10000		200	102	5.0	70-130	20	04/29/2022 1947
1,1,2-Trichloroethane	ND	10000	10000		200	102	0.061	70-130	20	04/29/2022 1947

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DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MSD

Sample ID: XD20108-006MD

Matrix: Aqueous

Batch: 39889

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date	
Trichloroethene	ND	10000	10000		200	100	1.5	70-130	20	04/29/2022 1947	
Trichlorofluoromethane	ND	10000	12000		200	117	2.0	70-130	20	04/29/2022 1947	
Vinyl chloride	1300	10000	16000	N	200	145	3.9	70-130	20	04/29/2022 1947	
Xylenes (total)	1300	20000	24000		200	114	3.1	70-130	20	04/29/2022 1947	
Surrogate	Q	% Rec	Acceptance Limit								
Bromofluorobenzene		102	70-130								
1,2-Dichloroethane-d4		95	70-130								
Toluene-d8		95	70-130								

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DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

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Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ40083-001

Matrix: Aqueous

Batch: 40083

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Acetone	ND		1	20	5.0	ug/L	05/02/2022 1029
Benzene	ND		1	1.0	0.40	ug/L	05/02/2022 1029
Bromodichloromethane	ND		1	1.0	0.40	ug/L	05/02/2022 1029
Bromoform	ND		1	1.0	0.40	ug/L	05/02/2022 1029
Bromomethane (Methyl bromide)	ND		1	2.0	0.40	ug/L	05/02/2022 1029
2-Butanone (MEK)	ND		1	10	2.0	ug/L	05/02/2022 1029
Carbon disulfide	ND		1	1.0	0.40	ug/L	05/02/2022 1029
Carbon tetrachloride	ND		1	1.0	0.40	ug/L	05/02/2022 1029
Chlorobenzene	ND		1	1.0	0.40	ug/L	05/02/2022 1029
Chloroethane	ND		1	2.0	0.40	ug/L	05/02/2022 1029
Chloroform	ND		1	1.0	0.40	ug/L	05/02/2022 1029
Chloromethane (Methyl chloride)	ND		1	1.0	0.50	ug/L	05/02/2022 1029
Cyclohexane	ND		1	1.0	0.40	ug/L	05/02/2022 1029
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	1.0	0.40	ug/L	05/02/2022 1029
Dibromochloromethane	ND		1	1.0	0.40	ug/L	05/02/2022 1029
1,2-Dibromoethane (EDB)	ND		1	1.0	0.40	ug/L	05/02/2022 1029
1,2-Dichlorobenzene	ND		1	1.0	0.40	ug/L	05/02/2022 1029
1,3-Dichlorobenzene	ND		1	1.0	0.40	ug/L	05/02/2022 1029
1,4-Dichlorobenzene	ND		1	1.0	0.40	ug/L	05/02/2022 1029
Dichlorodifluoromethane	ND		1	2.0	0.60	ug/L	05/02/2022 1029
1,1-Dichloroethane	ND		1	1.0	0.40	ug/L	05/02/2022 1029
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	05/02/2022 1029
1,1-Dichloroethene	ND		1	1.0	0.40	ug/L	05/02/2022 1029
cis-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	05/02/2022 1029
trans-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	05/02/2022 1029
1,2-Dichloropropane	ND		1	1.0	0.40	ug/L	05/02/2022 1029
cis-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	05/02/2022 1029
trans-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	05/02/2022 1029
Ethylbenzene	ND		1	1.0	0.40	ug/L	05/02/2022 1029
2-Hexanone	ND		1	10	2.0	ug/L	05/02/2022 1029
Isopropylbenzene	ND		1	1.0	0.40	ug/L	05/02/2022 1029
Methyl acetate	ND		1	1.0	0.40	ug/L	05/02/2022 1029
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	05/02/2022 1029
4-Methyl-2-pentanone	ND		1	10	2.0	ug/L	05/02/2022 1029
Methylcyclohexane	ND		1	5.0	0.40	ug/L	05/02/2022 1029
Methylene chloride	ND		1	1.0	0.40	ug/L	05/02/2022 1029
Styrene	ND		1	1.0	0.41	ug/L	05/02/2022 1029
1,1,2,2-Tetrachloroethane	ND		1	1.0	0.40	ug/L	05/02/2022 1029
Tetrachloroethene	ND		1	1.0	0.40	ug/L	05/02/2022 1029
Toluene	ND		1	1.0	0.40	ug/L	05/02/2022 1029
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	1.0	0.42	ug/L	05/02/2022 1029
1,2,4-Trichlorobenzene	ND		1	1.0	0.40	ug/L	05/02/2022 1029
1,1,1-Trichloroethane	ND		1	1.0	0.40	ug/L	05/02/2022 1029
1,1,2-Trichloroethane	ND		1	1.0	0.40	ug/L	05/02/2022 1029

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ40083-001

Matrix: Aqueous

Batch: 40083

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Trichloroethene	ND		1	1.0	0.40	ug/L	05/02/2022 1029
Trichlorofluoromethane	ND		1	1.0	0.40	ug/L	05/02/2022 1029
Vinyl chloride	ND		1	1.0	0.40	ug/L	05/02/2022 1029
Xylenes (total)	ND		1	1.0	0.40	ug/L	05/02/2022 1029
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		101	70-130				
1,2-Dichloroethane-d4		116	70-130				
Toluene-d8		106	70-130				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

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Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ40083-002

Matrix: Aqueous

Batch: 40083

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Acetone	100	88		1	88	60-140	05/02/2022 0922
Benzene	50	46		1	92	70-130	05/02/2022 0922
Bromodichloromethane	50	47		1	94	70-130	05/02/2022 0922
Bromoform	50	48		1	96	70-130	05/02/2022 0922
Bromomethane (Methyl bromide)	50	49		1	98	70-130	05/02/2022 0922
2-Butanone (MEK)	100	75		1	75	70-130	05/02/2022 0922
Carbon disulfide	50	45		1	89	70-130	05/02/2022 0922
Carbon tetrachloride	50	45		1	89	70-130	05/02/2022 0922
Chlorobenzene	50	45		1	90	70-130	05/02/2022 0922
Chloroethane	50	42		1	85	70-130	05/02/2022 0922
Chloroform	50	44		1	87	70-130	05/02/2022 0922
Chloromethane (Methyl chloride)	50	43		1	85	60-140	05/02/2022 0922
Cyclohexane	50	48		1	96	70-130	05/02/2022 0922
1,2-Dibromo-3-chloropropane (DBCP)	50	43		1	87	70-130	05/02/2022 0922
Dibromochloromethane	50	49		1	99	70-130	05/02/2022 0922
1,2-Dibromoethane (EDB)	50	47		1	93	70-130	05/02/2022 0922
1,2-Dichlorobenzene	50	47		1	95	70-130	05/02/2022 0922
1,3-Dichlorobenzene	50	48		1	96	70-130	05/02/2022 0922
1,4-Dichlorobenzene	50	48		1	96	70-130	05/02/2022 0922
Dichlorodifluoromethane	50	39		1	78	60-140	05/02/2022 0922
1,1-Dichloroethane	50	46		1	91	70-130	05/02/2022 0922
1,2-Dichloroethane	50	44		1	88	70-130	05/02/2022 0922
1,1-Dichloroethene	50	45		1	89	70-130	05/02/2022 0922
cis-1,2-Dichloroethene	50	44		1	87	70-130	05/02/2022 0922
trans-1,2-Dichloroethene	50	44		1	87	70-130	05/02/2022 0922
1,2-Dichloropropane	50	47		1	95	70-130	05/02/2022 0922
cis-1,3-Dichloropropene	50	46		1	92	70-130	05/02/2022 0922
trans-1,3-Dichloropropene	50	49		1	98	70-130	05/02/2022 0922
Ethylbenzene	50	48		1	97	70-130	05/02/2022 0922
2-Hexanone	100	91		1	91	70-130	05/02/2022 0922
Isopropylbenzene	50	51		1	102	70-130	05/02/2022 0922
Methyl acetate	50	45		1	91	70-130	05/02/2022 0922
Methyl tertiary butyl ether (MTBE)	50	54		1	108	70-130	05/02/2022 0922
4-Methyl-2-pentanone	100	86		1	86	70-130	05/02/2022 0922
Methylcyclohexane	50	46		1	92	70-130	05/02/2022 0922
Methylene chloride	50	46		1	91	70-130	05/02/2022 0922
Styrene	50	47		1	94	70-130	05/02/2022 0922
1,1,2,2-Tetrachloroethane	50	47		1	94	70-130	05/02/2022 0922
Tetrachloroethene	50	46		1	92	70-130	05/02/2022 0922
Toluene	50	50		1	99	70-130	05/02/2022 0922
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	44		1	89	70-130	05/02/2022 0922
1,2,4-Trichlorobenzene	50	48		1	96	70-130	05/02/2022 0922
1,1,1-Trichloroethane	50	46		1	92	70-130	05/02/2022 0922
1,1,2-Trichloroethane	50	46		1	91	70-130	05/02/2022 0922

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Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ40083-002

Matrix: Aqueous

Batch: 40083

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Trichloroethene	50	41		1	83	70-130	05/02/2022 0922
Trichlorofluoromethane	50	41		1	83	70-130	05/02/2022 0922
Vinyl chloride	50	43		1	87	70-130	05/02/2022 0922
Xylenes (total)	100	100		1	100	70-130	05/02/2022 0922
Surrogate	Q	% Rec			Acceptance Limit		
Bromofluorobenzene		95			70-130		
1,2-Dichloroethane-d4		104			70-130		
Toluene-d8		100			70-130		

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

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+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MS

Sample ID: XD20108-001MS

Matrix: Aqueous

Batch: 40083

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Acetone	ND	2000	1600		20	81	60-140	05/02/2022 1959
Benzene	ND	1000	1100		20	108	70-130	05/02/2022 1959
Bromodichloromethane	ND	1000	1100		20	108	70-130	05/02/2022 1959
Bromoform	ND	1000	1100		20	113	70-130	05/02/2022 1959
Bromomethane (Methyl bromide)	ND	1000	1200		20	120	70-130	05/02/2022 1959
2-Butanone (MEK)	ND	2000	1900		20	94	70-130	05/02/2022 1959
Carbon disulfide	ND	1000	1100		20	106	70-130	05/02/2022 1959
Carbon tetrachloride	ND	1000	1100		20	109	70-130	05/02/2022 1959
Chlorobenzene	ND	1000	1000		20	104	70-130	05/02/2022 1959
Chloroethane	ND	1000	990		20	99	70-130	05/02/2022 1959
Chloroform	ND	1000	1000		20	103	70-130	05/02/2022 1959
Chloromethane (Methyl chloride)	ND	1000	1000		20	103	60-140	05/02/2022 1959
Cyclohexane	ND	1000	1200		20	118	70-130	05/02/2022 1959
1,2-Dibromo-3-chloropropane (DBCP)	ND	1000	1000		20	105	70-130	05/02/2022 1959
Dibromochloromethane	ND	1000	1100		20	113	70-130	05/02/2022 1959
1,2-Dibromoethane (EDB)	ND	1000	1100		20	107	70-130	05/02/2022 1959
1,2-Dichlorobenzene	ND	1000	1000		20	100	70-130	05/02/2022 1959
1,3-Dichlorobenzene	ND	1000	1000		20	103	70-130	05/02/2022 1959
1,4-Dichlorobenzene	ND	1000	1000		20	102	70-130	05/02/2022 1959
Dichlorodifluoromethane	ND	1000	990		20	99	60-140	05/02/2022 1959
1,1-Dichloroethane	ND	1000	1100		20	106	70-130	05/02/2022 1959
1,2-Dichloroethane	ND	1000	1000		20	103	70-130	05/02/2022 1959
1,1-Dichloroethene	ND	1000	1100		20	108	70-130	05/02/2022 1959
cis-1,2-Dichloroethene	710	1000	1600		20	93	70-130	05/02/2022 1959
trans-1,2-Dichloroethene	ND	1000	1000		20	104	70-130	05/02/2022 1959
1,2-Dichloropropane	ND	1000	1100		20	110	70-130	05/02/2022 1959
cis-1,3-Dichloropropene	ND	1000	980		20	98	70-130	05/02/2022 1959
trans-1,3-Dichloropropene	ND	1000	1100		20	109	70-130	05/02/2022 1959
Ethylbenzene	240	1000	1400		20	119	70-130	05/02/2022 1959
2-Hexanone	ND	2000	2400		20	122	70-130	05/02/2022 1959
Isopropylbenzene	ND	1000	1200		20	119	70-130	05/02/2022 1959
Methyl acetate	ND	1000	1100		20	112	70-130	05/02/2022 1959
Methyl tertiary butyl ether (MTBE)	ND	1000	1200		20	119	70-130	05/02/2022 1959
4-Methyl-2-pentanone	ND	2000	2200		20	109	70-130	05/02/2022 1959
Methylcyclohexane	ND	1000	1100		20	115	70-130	05/02/2022 1959
Methylene chloride	ND	1000	1000		20	102	70-130	05/02/2022 1959
Styrene	ND	1000	1100		20	109	70-130	05/02/2022 1959
1,1,2,2-Tetrachloroethane	ND	1000	1100		20	106	70-130	05/02/2022 1959
Tetrachloroethene	ND	1000	1100		20	111	70-130	05/02/2022 1959
Toluene	ND	1000	1200		20	118	70-130	05/02/2022 1959
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	1000	1100		20	110	70-130	05/02/2022 1959
1,2,4-Trichlorobenzene	ND	1000	940		20	94	70-130	05/02/2022 1959
1,1,1-Trichloroethane	ND	1000	1100		20	111	70-130	05/02/2022 1959
1,1,2-Trichloroethane	ND	1000	1100		20	108	70-130	05/02/2022 1959

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MS

Sample ID: XD20108-001MS

Matrix: Aqueous

Batch: 40083

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Trichloroethene	ND	1000	980		20	98	70-130	05/02/2022 1959
Trichlorofluoromethane	ND	1000	1100		20	106	70-130	05/02/2022 1959
Vinyl chloride	1400	1000	2200		20	85	70-130	05/02/2022 1959
Xylenes (total)	660	2000	3100		20	122	70-130	05/02/2022 1959
Surrogate	Q	% Rec	Acceptance Limit					
Bromofluorobenzene		108	70-130					
1,2-Dichloroethane-d4		108	70-130					
Toluene-d8		111	70-130					

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MSD

Sample ID: XD20108-001MD

Matrix: Aqueous

Batch: 40083

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Acetone	ND	2000	1500		20	76	6.1	60-140	20	05/02/2022 2024
Benzene	ND	1000	1100		20	108	0.69	70-130	20	05/02/2022 2024
Bromodichloromethane	ND	1000	1100		20	109	0.52	70-130	20	05/02/2022 2024
Bromoform	ND	1000	1100		20	113	0.044	70-130	20	05/02/2022 2024
Bromomethane (Methyl bromide)	ND	1000	1200		20	118	1.8	70-130	20	05/02/2022 2024
2-Butanone (MEK)	ND	2000	1800		20	90	4.5	70-130	20	05/02/2022 2024
Carbon disulfide	ND	1000	1100		20	108	1.6	70-130	20	05/02/2022 2024
Carbon tetrachloride	ND	1000	1100		20	109	0.37	70-130	20	05/02/2022 2024
Chlorobenzene	ND	1000	1000		20	104	0.080	70-130	20	05/02/2022 2024
Chloroethane	ND	1000	980		20	98	1.4	70-130	20	05/02/2022 2024
Chloroform	ND	1000	1000		20	102	1.1	70-130	20	05/02/2022 2024
Chloromethane (Methyl chloride)	ND	1000	980		20	98	4.8	60-140	20	05/02/2022 2024
Cyclohexane	ND	1000	1200		20	119	0.41	70-130	20	05/02/2022 2024
1,2-Dibromo-3-chloropropane (DBCP)	ND	1000	1100		20	106	1.3	70-130	20	05/02/2022 2024
Dibromochloromethane	ND	1000	1100		20	114	0.61	70-130	20	05/02/2022 2024
1,2-Dibromoethane (EDB)	ND	1000	1100		20	108	1.2	70-130	20	05/02/2022 2024
1,2-Dichlorobenzene	ND	1000	1000		20	101	0.48	70-130	20	05/02/2022 2024
1,3-Dichlorobenzene	ND	1000	1000		20	104	0.46	70-130	20	05/02/2022 2024
1,4-Dichlorobenzene	ND	1000	1000		20	103	0.75	70-130	20	05/02/2022 2024
Dichlorodifluoromethane	ND	1000	940		20	94	5.3	60-140	20	05/02/2022 2024
1,1-Dichloroethane	ND	1000	1100		20	106	0.11	70-130	20	05/02/2022 2024
1,2-Dichloroethane	ND	1000	1000		20	103	0.71	70-130	20	05/02/2022 2024
1,1-Dichloroethene	ND	1000	1100		20	108	0.18	70-130	20	05/02/2022 2024
cis-1,2-Dichloroethene	710	1000	1700		20	99	3.3	70-130	20	05/02/2022 2024
trans-1,2-Dichloroethene	ND	1000	1000		20	104	0.10	70-130	20	05/02/2022 2024
1,2-Dichloropropane	ND	1000	1100		20	109	0.43	70-130	20	05/02/2022 2024
cis-1,3-Dichloropropene	ND	1000	990		20	99	1.5	70-130	20	05/02/2022 2024
trans-1,3-Dichloropropene	ND	1000	1100		20	107	1.6	70-130	20	05/02/2022 2024
Ethylbenzene	240	1000	1400		20	120	0.29	70-130	20	05/02/2022 2024
2-Hexanone	ND	2000	2400		20	119	2.7	70-130	20	05/02/2022 2024
Isopropylbenzene	ND	1000	1200		20	122	2.4	70-130	20	05/02/2022 2024
Methyl acetate	ND	1000	1000		20	101	10	70-130	20	05/02/2022 2024
Methyl tertiary butyl ether (MTBE)	ND	1000	1100		20	115	3.6	70-130	20	05/02/2022 2024
4-Methyl-2-pentanone	ND	2000	2200		20	108	1.2	70-130	20	05/02/2022 2024
Methylcyclohexane	ND	1000	1200		20	117	1.7	70-130	20	05/02/2022 2024
Methylene chloride	ND	1000	1000		20	101	1.6	70-130	20	05/02/2022 2024
Styrene	ND	1000	1100		20	109	0.043	70-130	20	05/02/2022 2024
1,1,2,2-Tetrachloroethane	ND	1000	1000		20	105	0.88	70-130	20	05/02/2022 2024
Tetrachloroethene	ND	1000	1100		20	112	0.68	70-130	20	05/02/2022 2024
Toluene	ND	1000	1200		20	116	1.2	70-130	20	05/02/2022 2024
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	1000	1100		20	109	0.98	70-130	20	05/02/2022 2024
1,2,4-Trichlorobenzene	ND	1000	960		20	96	1.6	70-130	20	05/02/2022 2024
1,1,1-Trichloroethane	ND	1000	1100		20	111	0.44	70-130	20	05/02/2022 2024
1,1,2-Trichloroethane	ND	1000	1100		20	107	0.78	70-130	20	05/02/2022 2024

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P = The RPD between two GC columns exceeds 40%

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+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MSD

Sample ID: XD20108-001MD

Matrix: Aqueous

Batch: 40083

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date	
Trichloroethene	ND	1000	1000		20	100	1.6	70-130	20	05/02/2022 2024	
Trichlorofluoromethane	ND	1000	1000		20	104	1.6	70-130	20	05/02/2022 2024	
Vinyl chloride	1400	1000	2300		20	91	2.5	70-130	20	05/02/2022 2024	
Xylenes (total)	660	2000	3200		20	125	1.9	70-130	20	05/02/2022 2024	
Surrogate	Q	% Rec	Acceptance Limit								
Bromofluorobenzene		108	70-130								
1,2-Dichloroethane-d4		108	70-130								
Toluene-d8		111	70-130								

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ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

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Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ40291-001

Matrix: Aqueous

Batch: 40291

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Acetone	ND		1	20	5.0	ug/L	05/03/2022 2348
Benzene	ND		1	1.0	0.40	ug/L	05/03/2022 2348
Bromodichloromethane	ND		1	1.0	0.40	ug/L	05/03/2022 2348
Bromoform	ND		1	1.0	0.40	ug/L	05/03/2022 2348
Bromomethane (Methyl bromide)	ND		1	2.0	0.40	ug/L	05/03/2022 2348
2-Butanone (MEK)	ND		1	10	2.0	ug/L	05/03/2022 2348
Carbon disulfide	ND		1	1.0	0.40	ug/L	05/03/2022 2348
Carbon tetrachloride	ND		1	1.0	0.40	ug/L	05/03/2022 2348
Chlorobenzene	ND		1	1.0	0.40	ug/L	05/03/2022 2348
Chloroethane	ND		1	2.0	0.40	ug/L	05/03/2022 2348
Chloroform	ND		1	1.0	0.40	ug/L	05/03/2022 2348
Chloromethane (Methyl chloride)	ND		1	1.0	0.50	ug/L	05/03/2022 2348
Cyclohexane	ND		1	1.0	0.40	ug/L	05/03/2022 2348
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	1.0	0.40	ug/L	05/03/2022 2348
Dibromochloromethane	ND		1	1.0	0.40	ug/L	05/03/2022 2348
1,2-Dibromoethane (EDB)	ND		1	1.0	0.40	ug/L	05/03/2022 2348
1,2-Dichlorobenzene	ND		1	1.0	0.40	ug/L	05/03/2022 2348
1,3-Dichlorobenzene	ND		1	1.0	0.40	ug/L	05/03/2022 2348
1,4-Dichlorobenzene	ND		1	1.0	0.40	ug/L	05/03/2022 2348
Dichlorodifluoromethane	ND		1	2.0	0.60	ug/L	05/03/2022 2348
1,1-Dichloroethane	ND		1	1.0	0.40	ug/L	05/03/2022 2348
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	05/03/2022 2348
1,1-Dichloroethene	ND		1	1.0	0.40	ug/L	05/03/2022 2348
cis-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	05/03/2022 2348
trans-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	05/03/2022 2348
1,2-Dichloropropane	ND		1	1.0	0.40	ug/L	05/03/2022 2348
cis-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	05/03/2022 2348
trans-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	05/03/2022 2348
Ethylbenzene	ND		1	1.0	0.40	ug/L	05/03/2022 2348
2-Hexanone	ND		1	10	2.0	ug/L	05/03/2022 2348
Isopropylbenzene	ND		1	1.0	0.40	ug/L	05/03/2022 2348
Methyl acetate	ND		1	1.0	0.40	ug/L	05/03/2022 2348
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	05/03/2022 2348
4-Methyl-2-pentanone	ND		1	10	2.0	ug/L	05/03/2022 2348
Methylcyclohexane	ND		1	5.0	0.40	ug/L	05/03/2022 2348
Methylene chloride	ND		1	1.0	0.40	ug/L	05/03/2022 2348
Styrene	ND		1	1.0	0.41	ug/L	05/03/2022 2348
1,1,2,2-Tetrachloroethane	ND		1	1.0	0.40	ug/L	05/03/2022 2348
Toluene	ND		1	1.0	0.40	ug/L	05/03/2022 2348
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	1.0	0.42	ug/L	05/03/2022 2348
1,2,4-Trichlorobenzene	ND		1	1.0	0.40	ug/L	05/03/2022 2348
1,1,1-Trichloroethane	ND		1	1.0	0.40	ug/L	05/03/2022 2348
1,1,2-Trichloroethane	ND		1	1.0	0.40	ug/L	05/03/2022 2348
Trichlorofluoromethane	ND		1	1.0	0.40	ug/L	05/03/2022 2348

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P = The RPD between two GC columns exceeds 40%

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+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ40291-001

Matrix: Aqueous

Batch: 40291

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Vinyl chloride	ND		1	1.0	0.40	ug/L	05/03/2022 2348
Xylenes (total)	ND		1	1.0	0.40	ug/L	05/03/2022 2348
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		95	70-130				
1,2-Dichloroethane-d4		120	70-130				
Toluene-d8		102	70-130				

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Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ40291-002

Matrix: Aqueous

Batch: 40291

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Acetone	100	130		1	132	60-140	05/03/2022 2210
Benzene	50	54		1	107	70-130	05/03/2022 2210
Bromodichloromethane	50	55		1	110	70-130	05/03/2022 2210
Bromoform	50	58		1	115	70-130	05/03/2022 2210
Bromomethane (Methyl bromide)	50	63		1	126	70-130	05/03/2022 2210
2-Butanone (MEK)	100	110		1	110	70-130	05/03/2022 2210
Carbon disulfide	50	54		1	108	70-130	05/03/2022 2210
Carbon tetrachloride	50	55		1	110	70-130	05/03/2022 2210
Chlorobenzene	50	53		1	105	70-130	05/03/2022 2210
Chloroethane	50	51		1	102	70-130	05/03/2022 2210
Chloroform	50	51		1	103	70-130	05/03/2022 2210
Chloromethane (Methyl chloride)	50	52		1	105	60-140	05/03/2022 2210
Cyclohexane	50	59		1	119	70-130	05/03/2022 2210
1,2-Dibromo-3-chloropropane (DBCP)	50	55		1	111	70-130	05/03/2022 2210
Dibromochloromethane	50	59		1	117	70-130	05/03/2022 2210
1,2-Dibromoethane (EDB)	50	56		1	112	70-130	05/03/2022 2210
1,2-Dichlorobenzene	50	52		1	103	70-130	05/03/2022 2210
1,3-Dichlorobenzene	50	53		1	106	70-130	05/03/2022 2210
1,4-Dichlorobenzene	50	54		1	107	70-130	05/03/2022 2210
Dichlorodifluoromethane	50	51		1	102	60-140	05/03/2022 2210
1,1-Dichloroethane	50	54		1	108	70-130	05/03/2022 2210
1,2-Dichloroethane	50	52		1	105	70-130	05/03/2022 2210
1,1-Dichloroethene	50	55		1	109	70-130	05/03/2022 2210
cis-1,2-Dichloroethene	50	52		1	104	70-130	05/03/2022 2210
trans-1,2-Dichloroethene	50	52		1	104	70-130	05/03/2022 2210
1,2-Dichloropropane	50	55		1	111	70-130	05/03/2022 2210
cis-1,3-Dichloropropene	50	53		1	106	70-130	05/03/2022 2210
trans-1,3-Dichloropropene	50	57		1	113	70-130	05/03/2022 2210
Ethylbenzene	50	57		1	114	70-130	05/03/2022 2210
2-Hexanone	100	130		1	128	70-130	05/03/2022 2210
Isopropylbenzene	50	60		1	120	70-130	05/03/2022 2210
Methyl acetate	50	62		1	125	70-130	05/03/2022 2210
Methyl tertiary butyl ether (MTBE)	50	58		1	115	70-130	05/03/2022 2210
4-Methyl-2-pentanone	100	110		1	114	70-130	05/03/2022 2210
Methylcyclohexane	50	58		1	115	70-130	05/03/2022 2210
Methylene chloride	50	52		1	105	70-130	05/03/2022 2210
Styrene	50	54		1	108	70-130	05/03/2022 2210
1,1,2,2-Tetrachloroethane	50	55		1	109	70-130	05/03/2022 2210
Toluene	50	58		1	117	70-130	05/03/2022 2210
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	55		1	110	70-130	05/03/2022 2210
1,2,4-Trichlorobenzene	50	50		1	100	70-130	05/03/2022 2210
1,1,1-Trichloroethane	50	56		1	111	70-130	05/03/2022 2210
1,1,2-Trichloroethane	50	55		1	109	70-130	05/03/2022 2210
Trichlorofluoromethane	50	53		1	106	70-130	05/03/2022 2210

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+ = RPD is out of criteria

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Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ40291-002

Matrix: Aqueous

Batch: 40291

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Vinyl chloride	50	56		1	111	70-130	05/03/2022 2210
Xylenes (total)	100	120		1	116	70-130	05/03/2022 2210
Surrogate	Q	% Rec			Acceptance Limit		
Bromofluorobenzene		108			70-130		
1,2-Dichloroethane-d4		112			70-130		
Toluene-d8		111			70-130		

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: XQ40291-003

Matrix: Aqueous

Batch: 40291

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Acetone	100	130		1	133	0.88	60-140	20	05/04/2022 0929
Benzene	50	54		1	109	1.5	70-130	20	05/04/2022 0929
Bromodichloromethane	50	56		1	111	0.92	70-130	20	05/04/2022 0929
Bromoform	50	59		1	119	2.9	70-130	20	05/04/2022 0929
Bromomethane (Methyl bromide)	50	62		1	125	1.3	70-130	20	05/04/2022 0929
2-Butanone (MEK)	100	100		1	104	5.4	70-130	20	05/04/2022 0929
Carbon disulfide	50	54		1	107	0.19	70-130	20	05/04/2022 0929
Carbon tetrachloride	50	55		1	110	0.48	70-130	20	05/04/2022 0929
Chlorobenzene	50	53		1	106	0.46	70-130	20	05/04/2022 0929
Chloroethane	50	51		1	102	0.069	70-130	20	05/04/2022 0929
Chloroform	50	51		1	102	0.68	70-130	20	05/04/2022 0929
Chloromethane (Methyl chloride)	50	51		1	103	2.0	60-140	20	05/04/2022 0929
Cyclohexane	50	59		1	118	0.79	70-130	20	05/04/2022 0929
1,2-Dibromo-3-chloropropane (DBCP)	50	54		1	109	2.1	70-130	20	05/04/2022 0929
Dibromochloromethane	50	59		1	119	1.2	70-130	20	05/04/2022 0929
1,2-Dibromoethane (EDB)	50	57		1	113	0.83	70-130	20	05/04/2022 0929
1,2-Dichlorobenzene	50	52		1	103	0.41	70-130	20	05/04/2022 0929
1,3-Dichlorobenzene	50	52		1	104	1.5	70-130	20	05/04/2022 0929
1,4-Dichlorobenzene	50	53		1	105	2.0	70-130	20	05/04/2022 0929
Dichlorodifluoromethane	50	51		1	101	1.3	60-140	20	05/04/2022 0929
1,1-Dichloroethane	50	53		1	106	2.0	70-130	20	05/04/2022 0929
1,2-Dichloroethane	50	53		1	106	0.67	70-130	20	05/04/2022 0929
1,1-Dichloroethene	50	53		1	106	3.4	70-130	20	05/04/2022 0929
cis-1,2-Dichloroethene	50	49		1	98	6.0	70-130	20	05/04/2022 0929
trans-1,2-Dichloroethene	50	51		1	101	3.1	70-130	20	05/04/2022 0929
1,2-Dichloropropane	50	56		1	111	0.49	70-130	20	05/04/2022 0929
cis-1,3-Dichloropropene	50	51		1	103	3.4	70-130	20	05/04/2022 0929
trans-1,3-Dichloropropene	50	54		1	109	4.0	70-130	20	05/04/2022 0929
Ethylbenzene	50	56		1	112	2.1	70-130	20	05/04/2022 0929
2-Hexanone	100	130		1	127	0.97	70-130	20	05/04/2022 0929
Isopropylbenzene	50	59		1	118	2.0	70-130	20	05/04/2022 0929
Methyl acetate	50	57		1	113	9.4	70-130	20	05/04/2022 0929
Methyl tertiary butyl ether (MTBE)	50	56		1	113	2.1	70-130	20	05/04/2022 0929
4-Methyl-2-pentanone	100	110		1	111	2.7	70-130	20	05/04/2022 0929
Methylcyclohexane	50	55		1	111	4.2	70-130	20	05/04/2022 0929
Methylene chloride	50	54		1	107	2.1	70-130	20	05/04/2022 0929
Styrene	50	55		1	110	1.4	70-130	20	05/04/2022 0929
1,1,2,2-Tetrachloroethane	50	54		1	108	1.1	70-130	20	05/04/2022 0929
Toluene	50	59		1	117	0.18	70-130	20	05/04/2022 0929
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	54		1	109	1.4	70-130	20	05/04/2022 0929
1,2,4-Trichlorobenzene	50	45		1	90	11	70-130	20	05/04/2022 0929
1,1,1-Trichloroethane	50	55		1	111	0.63	70-130	20	05/04/2022 0929
1,1,2-Trichloroethane	50	56		1	111	1.8	70-130	20	05/04/2022 0929
Trichlorofluoromethane	50	54		1	108	1.9	70-130	20	05/04/2022 0929

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

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Volatile Organic Compounds by GC/MS - LCSD

Sample ID: XQ40291-003

Matrix: Aqueous

Batch: 40291

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Vinyl chloride	50	55		1	110	1.3	70-130	20	05/04/2022 0929
Xylenes (total)	100	110		1	115	0.78	70-130	20	05/04/2022 0929
Surrogate	Q	% Rec	Acceptance Limit						
Bromofluorobenzene		109	70-130						
1,2-Dichloroethane-d4		113	70-130						
Toluene-d8		112	70-130						

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ40706-001

Matrix: Aqueous

Batch: 40706

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Tetrachloroethene	ND		1	1.0	0.40	ug/L	05/06/2022 1057
Trichloroethene	ND		1	1.0	0.40	ug/L	05/06/2022 1057
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		93	70-130				
1,2-Dichloroethane-d4		123	70-130				
Toluene-d8		104	70-130				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ40706-002

Matrix: Aqueous

Batch: 40706

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Tetrachloroethene	50	55		1	109	70-130	05/06/2022 1006
Trichloroethene	50	50		1	100	70-130	05/06/2022 1006
Surrogate	Q	% Rec			Acceptance Limit		
Bromofluorobenzene		102			70-130		
1,2-Dichloroethane-d4		107			70-130		
Toluene-d8		106			70-130		

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ40715-001

Matrix: Aqueous

Batch: 40715

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Tetrachloroethene	ND		1	1.0	0.40	ug/L	05/06/2022 1045
Trichloroethene	ND		1	1.0	0.40	ug/L	05/06/2022 1045
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		108	70-130				
1,2-Dichloroethane-d4		107	70-130				
Toluene-d8		113	70-130				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ40715-002

Matrix: Aqueous

Batch: 40715

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Tetrachloroethene	50	57		1	115	70-130	05/06/2022 0914
Trichloroethene	50	57		1	113	70-130	05/06/2022 0914
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		102	70-130				
1,2-Dichloroethane-d4		105	70-130				
Toluene-d8		106	70-130				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MS

Sample ID: XD20108-011MS

Matrix: Aqueous

Batch: 40715

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Tetrachloroethene	390	250	670		5	113	70-130	05/06/2022 2029
Trichloroethene	550	250	820		5	109	70-130	05/06/2022 2029
Surrogate	Q	% Rec	Acceptance Limit					
Bromofluorobenzene		104	70-130					
1,2-Dichloroethane-d4		105	70-130					
Toluene-d8		108	70-130					

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MSD

Sample ID: XD20108-011MD

Matrix: Aqueous

Batch: 40715

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Tetrachloroethene	390	250	680		5	116	1.4	70-130	20	05/06/2022 2052
Trichloroethene	550	250	820		5	108	0.24	70-130	20	05/06/2022 2052
Surrogate	Q	% Rec	Acceptance Limit							
Bromofluorobenzene		114	70-130							
1,2-Dichloroethane-d4		110	70-130							
Toluene-d8		112	70-130							

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Dissolved Gases - MB

Sample ID: XQ39117-001

Matrix: Aqueous

Batch: 39117

Analytical Method: RSK - 175

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Ethane	ND		1	10	2.5	ug/L	04/22/2022 1045
Ethene	ND		1	10	2.5	ug/L	04/22/2022 1045
Methane	ND		1	10	2.5	ug/L	04/22/2022 1045
Propane	ND		1	15	5.0	ug/L	04/22/2022 1045

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Dissolved Gases - LCS

Sample ID: XQ39117-002

Matrix: Aqueous

Batch: 39117

Analytical Method: RSK - 175

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Ethane	550	580		1	105	70-130	04/22/2022 0956
Ethene	520	550		1	106	70-130	04/22/2022 0956
Methane	300	320		1	107	70-130	04/22/2022 0956
Propane	810	840		1	103	70-130	04/22/2022 0956

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Dissolved Gases - LCSD

Sample ID: XQ39117-003

Matrix: Aqueous

Batch: 39117

Analytical Method: RSK - 175

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Ethane	550	570		1	104	1.8	70-130	30	04/22/2022 1010
Ethene	520	540		1	104	1.9	70-130	30	04/22/2022 1010
Methane	300	310		1	106	1.0	70-130	30	04/22/2022 1010
Propane	810	820		1	101	2.4	70-130	30	04/22/2022 1010

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Dissolved Gases - MB

Sample ID: XQ39707-001

Matrix: Aqueous

Batch: 39707

Analytical Method: RSK - 175

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Methane	ND		1	10	2.5	ug/L	04/28/2022 1302

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Dissolved Gases - LCS

Sample ID: XQ39707-002

Matrix: Aqueous

Batch: 39707

Analytical Method: RSK - 175

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Methane	300	320		1	107	70-130	04/28/2022 1127

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Dissolved Gases - LCSD

Sample ID: XQ39707-003

Matrix: Aqueous

Batch: 39707

Analytical Method: RSK - 175

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Methane	300	330		1	111	3.6	70-130	30	04/28/2022 1141

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Chain of Custody
and
Miscellaneous Documents



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 106 Vantage Point Drive • West Columbia, SC 29172
 Telephone No. 803-781-9700 Fax No. 803-791-9111
 www.pacelabs.com

Number 130301

Client: WSP, USA		Report to Contact: Mary Ann Brookshire		Telephone No. / E-mail: maryann.brookshire@wsp.com		Invoice No.: 23469	
Address: 1880 West Oak Parkway Bldg 100 Ste 106		Sample Signature: <i>[Signature]</i>		Analyst (Attach list if more spaces is needed):		Page 1 of 2	
City: Maricopa		Printed Name: Tiffany Messier		Matrix: 1AD SIM		Barcode: XD20108	
Project Name: Lennux International		F.O. No.: 1602-2016-0378-21		No. of Containers by Preservative Type		Lot: XD20108	
Project No.: 1602-2016-0378-21		Sample ID / Description		Matrix		Remarks / Cooler I.D.	
(Container by each sample may be combined on one line.)		Collection Date(s)		Collection Time (Military)			
MW-6R		4-20-22		09:10		3 3 2 1 1 3	
MW-16		4-20-22		10:05		3 3 2 1 1 3	
EB-01-042022		4-20-22		10:30		3 3 2 1 1 3	
MW-11		4-20-22		09:50		3 3 2 1 1 3	
MW-8D		4-20-22		11:30		3 3 2 1 1 3	
MW-3		4-20-22		13:15		3 3 2 1 1 3	
MW-10		4-20-22		14:20		3 3 2 1 1 3	
MW-14		4-20-22		15:20		3 3 2 1 1 3	

Turn Around Time Required (Prior lab approval required for expedited MAT)	Sample Disposal	Possible Hazard Identification	CC Requirements (Specify)
<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush (Specify)	<input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Residual by Lab	<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison <input type="checkbox"/> Unknown	Date Time
Relinquished by: <i>Tiffany Messier</i>	Date Time: 4-20-21 17:08	1. Received by	Date Time
Relinquished by:	Date Time:	2. Received by	Date Time
Relinquished by:	Date Time:	3. Received by	Date Time
Relinquished by:	Date Time:	4. Laboratory received by: <i>[Signature]</i>	Date Time: 4/20/22 1703
Note: All samples are retained for four weeks from receipt unless other arrangements are made.		Temp Blank <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Samplers; PINK-Field/Client Copy
 Document Number: MEG00342-01
 1.49g
 3.66g



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 www.pace.abs.com

Number 130302

Client WSP, USA		Report to Contact Mary Ann Brookshire		Telephone No. / Email maryann.brookshire@wsp.com		Circle No. 23469	
Address 1880 West Oak Parkway		Sampler's Signature <i>[Signature]</i>		Analyses (Attach list if more space is needed)		Page 2 of 2	
City Maricopa		State AZ		Zip Code 85006		Barcode 	
Project Name Lennox International		P.O. No. 20110378.21		Matrix		LMO XD20108	
Sample ID / Description MW-4		Collection Date/Time 4/24/22 1524		No. of Containers by Preservative Type		Remarks / Container I.D.	
MW-4D		4.20.22 1442		None			
MW-18		4.20.22 1345		None			
DUP-01		4.20.22 9		None			

Turn Around Time Required (Prior lab approval required for expedited MAT)	Sample Disposal	Respirable Hazard Identification	GC Requirements (Specify)
Standard <input checked="" type="checkbox"/> Rush (Specify)	<input type="checkbox"/> Return to Client <input type="checkbox"/> Deposal by Lab	<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Volatile <input type="checkbox"/> Unlabeled	Date Time
1. Relinquished by <i>[Signature]</i>	Date 4/20/22 Time 17:03	1. Received by	Date Time
2. Relinquished by	Date Time	2. Received by	Date Time
3. Relinquished by	Date Time	3. Received by	Date Time
4. Relinquished by	Date Time	4. Laboratory received by <i>[Signature]</i>	Date Time 4/20/22 1703

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

Received on site (Circle) No For Pack Receipt Temp. **24 °C**

Temp Blank **13 °C**

Document Number **ME00512-01**

PACE ANALYTICAL SERVICES, LLC



Samples Receipt Checklist (SRC) (ME0018C-15)
Issuing Authority: Pace ENV - WCOL

Revised: 9/29/2020
Page 1 of 1

Sample Receipt Checklist (SRC)

Client: WSP Cooler Inspected by/date: KDRW / 04/20/2022 Lot #: X120108

Means of receipt: <input checked="" type="checkbox"/> Pace <input type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Other:	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1. Were custody seals present on the cooler?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	2. If custody seals were present, were they intact and unbroken?
pH Strip ID: <u>21-832</u> Chlorine Strip ID: <u>NA</u> Tested by: <u>KDRW</u>	
Original temperature upon receipt / Derived (Corrected) temperature upon receipt %Solid Snap-Cup ID: <u>NA</u> <u>2.4 / 2.4 °C</u> <u>1.9 / 1.9 °C</u> <u>3.6 / 3.6 °C</u> <u>NA / NA °C</u>	
Method: <input checked="" type="checkbox"/> Temperature Blank <input type="checkbox"/> Against Bottles IR Gun ID: <u>5</u> IR Gun Correction Factor: <u>0</u> °C	
Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Ice Packs <input type="checkbox"/> Dry Ice <input type="checkbox"/> None	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	4. Is the commercial courier's packing slip attached to this form?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5. Were proper custody procedures (relinquished/received) followed?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6. Were sample IDs listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7. Were sample IDs listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8. Was collection date & time listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9. Was collection date & time listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10. Did all container label information (ID, date, time) agree with the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11. Were tests to be performed listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	13. Was adequate sample volume available?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	14. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA	16. For VOA and RSK-175 samples, were bubbles present >"pea-size" (¼" or 6mm in diameter) in any of the VOA vials?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	19. Were all applicable NH ₃ /TKN/cyanide/phenol/625.1/608.3 (< 0.5mg/L) samples free of residual chlorine?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	20. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	21. Was the quote number listed on the container label? If yes, Quote #
Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)	
Sample(s) <u>NA</u> were received incorrectly preserved and were adjusted accordingly in sample receiving with <u>NA</u> mL of circle one: H2SO4, HNO3, HCl, NaOH using SR # <u>NA</u>	
Time of preservation <u>NA</u> . If more than one preservative is needed, please note in the comments below.	
Sample(s) <u>NA</u> were received with bubbles >6 mm in diameter.	
Samples(s) <u>NA</u> were received with TRC > 0.5 mg/L (If #19 is no) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na ₂ S ₂ O ₃) with Shealy ID: <u>NA</u>	
SR barcode labels applied by: <u>KDRW</u> Date: <u>04/20/2022</u>	

Comments: Excess set of Trip Blank vials not listed on COC



Report of Analysis

EarthCon Consultants, Inc.
1880 West Oak Parkway
Building 100, Suite 106
Marietta, GA 30062
Attention: Mary Ann Brookshire

Project Name: Lennox International

Project Number: EC02.20160378.21

Lot Number: **XD21014**

Date Completed: 05/12/2022

05/13/2022 4:01 PM

Approved and released by:
Project Manager II: **Lucas Odom**



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PACE ANALYTICAL SERVICES, LLC

SC DHEC No: 32010001

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

Case Narrative EarthCon Consultants, Inc. Lot Number: XD21014

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report. Where sampling is conducted by the client, results relate to the accuracy of the information provided, and as the samples are received.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved The NELAC Institute (TNI) standards, the Pace Analytical Services, LLC ("Pace") Laboratory Quality Manual, standard operating procedures (SOPs), and Pace policies. Any exceptions to the TNI standards, the Laboratory Quality Manual, SOPs or policies are qualified on the results page or discussed below.

Pace is a TNI accredited laboratory; however, the following analyses are currently not listed on our TNI scope of accreditation: Drinking Water: VOC (excluding BTEX, MTBE, Naphthalene, & 1,2-dichloroethane) EPA 524.2, E. coli and Total coliforms SM 9223 B-2004, Solid Chemical Material: TOC Walkley-Black, Biological Tissue: All, Non-Potable Water: SGT-HEM EPA 1664B, Silica EPA 200.7, Boron, Calcium, Silicon, Strontium EPA 200.8, Bicarbonate, Carbonate, and Hydroxide Alkalinity SM 2320 B-2011, SM 9221 C E-2006 & SM 9222D-2006, Strontium SW-846 6010D, VOC SM 6200 B-2011, Fecal Coliform Colilert-18.

Where applicable, all soil sample results (including LOQ and DL if requested) are corrected for dry weight unless flagged with a "W" qualifier.

If you have any questions regarding this report, please contact the Pace Project Manager listed on the cover page.

TCLP VOCs

The laboratory control sample (LCS) for analytical batch 41267 exceeded acceptance criteria for the following analytes: 2-Butanone. These analytes were biased high and were not detected in the samples affected.

PACE ANALYTICAL SERVICES, LLC

Sample Summary EarthCon Consultants, Inc. Lot Number: XD21014

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-5	Aqueous	04/21/2022 0940	04/21/2022
002	TCLP-VOC	Solid	04/21/2022 1000	04/21/2022
003	TCLP-VOC	Aqueous	04/21/2022 1000	04/21/2022
004	TB-03	Aqueous	04/22/2022	04/22/2022

(4 samples)

PACE ANALYTICAL SERVICES, LLC

Detection Summary EarthCon Consultants, Inc. Lot Number: XD21014

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	MW-5	Aqueous	Chloride	9056A	16		mg/L	5
001	MW-5	Aqueous	Nitrate - N	9056A	0.35		mg/L	5
001	MW-5	Aqueous	Sulfate	9056A	0.68	J	mg/L	5
001	MW-5	Aqueous	Sulfide	SM 4500-S2 F-	2.9		mg/L	5
001	MW-5	Aqueous	TOC	9060A	0.42	J	mg/L	5
001	MW-5	Aqueous	1,1-Dichloroethane	8260D	2.6		ug/L	5
001	MW-5	Aqueous	1,2-Dichloroethane	8260D	0.64	J	ug/L	6
001	MW-5	Aqueous	1,1-Dichloroethene	8260D	1.4		ug/L	6
001	MW-5	Aqueous	cis-1,2-Dichloroethene	8260D	330		ug/L	6
001	MW-5	Aqueous	trans-1,2-Dichloroethene	8260D	2.8		ug/L	6
001	MW-5	Aqueous	Tetrachloroethene	8260D	150		ug/L	6
001	MW-5	Aqueous	1,1,2-Trichloroethane	8260D	0.61	J	ug/L	6
001	MW-5	Aqueous	Trichloroethene	8260D	220		ug/L	6
001	MW-5	Aqueous	Vinyl chloride	8260D	6.1		ug/L	6
001	MW-5	Aqueous	1,4-Dioxane	8260D (SIM)	9.0		ug/L	7
001	MW-5	Aqueous	Methane	RSK - 175	1200		ug/L	7
003	TCLP-VOC	Aqueous	Tetrachloroethene	8260D	0.023	J	mg/L	9
003	TCLP-VOC	Aqueous	Trichloroethene	8260D	0.034	J	mg/L	9
004	TB-03	Aqueous	Methylene chloride	8260D	1.0		ug/L	10

(19 detections)

Description: MW-5

Matrix: Aqueous

Date Sampled: 04/21/2022 0940

Date Received: 04/21/2022

Inorganic non-metals

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	(Alkalinity @)	SM 2320B-2011	1	04/25/2022 1709	TAD		39343
1		(Chloride) 9056A	1	04/22/2022 1445	YCB		39184
1		(Nitrate - N) 9056A	1	04/22/2022 1445	CAW		39284
1		(Sulfate) 9056A	1	04/22/2022 1445	CAW		39281
1		(Sulfide) SM 4500-S2 F-2011	1	04/27/2022 1412	SJL		39491
1		(TOC) 9060A	1	05/05/2022 0556	DMA		40429

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Alkalinity @ pH 4.5 su		SM 2320B-2011	ND		20	20	mg CaCO ₃ /L	1
Chloride		9056A	16		1.0	0.25	mg/L	1
Nitrate - N		9056A	0.35		0.020	0.0050	mg/L	1
Sulfate		9056A	0.68	J	1.0	0.25	mg/L	1
Sulfide	18496-25-8	SM 4500-S2 F-2	2.9		1.0	1.0	mg/L	1
TOC		9060A	0.42	J	1.0	0.42	mg/L	1

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/28/2022 0407	JMM2		39612
2	5030B	8260D	5	04/29/2022 0553	JMM2		39778

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1
1,1-Dichloroethane	75-34-3	8260D	2.6		1.0	0.40	ug/L	1

TOC Range: 0.362 - 0.467

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

Description: MW-5

Matrix: Aqueous

Date Sampled: 04/21/2022 0940

Date Received: 04/21/2022

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D	1	04/28/2022 0407	JMM2		39612
2	5030B	8260D	5	04/29/2022 0553	JMM2		39778

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,2-Dichloroethane	107-06-2	8260D	0.64	J	1.0	0.40	ug/L	1
1,1-Dichloroethene	75-35-4	8260D	1.4		1.0	0.40	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260D	330		5.0	2.0	ug/L	2
trans-1,2-Dichloroethene	156-60-5	8260D	2.8		1.0	0.40	ug/L	1
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1
Methylene chloride	75-09-2	8260D	ND		1.0	0.40	ug/L	1
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1
Tetrachloroethene	127-18-4	8260D	150		1.0	0.40	ug/L	1
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260D	ND		1.0	0.42	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260D	ND		1.0	0.40	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260D	ND		1.0	0.40	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260D	0.61	J	1.0	0.40	ug/L	1
Trichloroethene	79-01-6	8260D	220		5.0	2.0	ug/L	2
Trichlorofluoromethane	75-69-4	8260D	ND		1.0	0.40	ug/L	1
Vinyl chloride	75-01-4	8260D	6.1		1.0	0.40	ug/L	1
Xylenes (total)	1330-20-7	8260D	ND		1.0	0.40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130		97	70-130
1,2-Dichloroethane-d4		106	70-130		96	70-130
Toluene-d8		100	70-130		103	70-130

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260D (SIM)	1	04/28/2022 1616	BWS		39725

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

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 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

Description: MW-5

Matrix: Aqueous

Date Sampled: 04/21/2022 0940

Date Received: 04/21/2022

Volatile Organic Compounds by GC/MS (SIM)

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	5030B	8260D (SIM)	1	04/28/2022 1616	BWS		39725			
Parameter		CAS Number		Analytical Method	Result	Q	LOQ	DL	Units	Run
1,4-Dioxane		123-91-1		8260D (SIM)	9.0		3.0	1.0	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
1,2-Dichloroethane-d4		105	40-170							

Dissolved Gases

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1		RSK - 175	1	04/28/2022 1805	JM1		39707			
Parameter		CAS Number		Analytical Method	Result	Q	LOQ	DL	Units	Run
Ethane		74-84-0		RSK - 175	ND		10	2.5	ug/L	1
Ethene		74-85-1		RSK - 175	ND		10	2.5	ug/L	1
Methane		74-82-8		RSK - 175	1200		10	2.5	ug/L	1
Propane		74-98-6		RSK - 175	ND		15	5.0	ug/L	1

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

Description: TCLP-VOC

Matrix: Solid

Date Sampled: 04/21/2022 1000

Date Received: 04/21/2022

TCLP Volatiles

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Leachate Date
1	1311/5030B	8260D	10	05/09/2022 1206	BWS		40923	04/25/2022 2203

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	8260D	ND		0.050	0.0040	mg/L	1
2-Butanone (MEK)	78-93-3	8260D	ND		0.10	0.020	mg/L	1
Carbon tetrachloride	56-23-5	8260D	ND		0.050	0.0040	mg/L	1
Chlorobenzene	108-90-7	8260D	ND		0.050	0.0040	mg/L	1
Chloroform	67-66-3	8260D	ND		0.050	0.0040	mg/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		0.050	0.0040	mg/L	1
1,1-Dichloroethene	75-35-4	8260D	ND		0.050	0.0040	mg/L	1
Tetrachloroethene	127-18-4	8260D	ND		0.050	0.0040	mg/L	1
Trichloroethene	79-01-6	8260D	ND		0.050	0.0040	mg/L	1
Vinyl chloride	75-01-4	8260D	ND		0.010	0.0040	mg/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		92	70-130
1,2-Dichloroethane-d4		102	70-130
Toluene-d8		98	70-130

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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TCLP Volatiles

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Leachate Date
1	1311/5030B	8260D	10	05/11/2022 1527	BWS		41267	04/27/2022 1756

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Benzene	71-43-2	8260D	ND		0.050	0.0040	mg/L	1
2-Butanone (MEK)	78-93-3	8260D	ND	L	0.10	0.020	mg/L	1
Carbon tetrachloride	56-23-5	8260D	ND		0.050	0.0040	mg/L	1
Chlorobenzene	108-90-7	8260D	ND		0.050	0.0040	mg/L	1
Chloroform	67-66-3	8260D	ND		0.050	0.0040	mg/L	1
1,2-Dichloroethane	107-06-2	8260D	ND		0.050	0.0040	mg/L	1
1,1-Dichloroethene	75-35-4	8260D	ND		0.050	0.0040	mg/L	1
Tetrachloroethene	127-18-4	8260D	0.023	J	0.050	0.0040	mg/L	1
Trichloroethene	79-01-6	8260D	0.034	J	0.050	0.0040	mg/L	1
Vinyl chloride	75-01-4	8260D	ND		0.010	0.0040	mg/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		109	70-130
Toluene-d8		122	70-130

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	5030B	8260D	1	04/28/2022 0204	JMM2		39612			
Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run		
Acetone	67-64-1	8260D	ND		20	5.0	ug/L	1		
Benzene	71-43-2	8260D	ND		1.0	0.40	ug/L	1		
Bromodichloromethane	75-27-4	8260D	ND		1.0	0.40	ug/L	1		
Bromoform	75-25-2	8260D	ND		1.0	0.40	ug/L	1		
Bromomethane (Methyl bromide)	74-83-9	8260D	ND		2.0	0.40	ug/L	1		
2-Butanone (MEK)	78-93-3	8260D	ND		10	2.0	ug/L	1		
Carbon disulfide	75-15-0	8260D	ND		1.0	0.40	ug/L	1		
Carbon tetrachloride	56-23-5	8260D	ND		1.0	0.40	ug/L	1		
Chlorobenzene	108-90-7	8260D	ND		1.0	0.40	ug/L	1		
Chloroethane	75-00-3	8260D	ND		2.0	0.40	ug/L	1		
Chloroform	67-66-3	8260D	ND		1.0	0.40	ug/L	1		
Chloromethane (Methyl chloride)	74-87-3	8260D	ND		1.0	0.50	ug/L	1		
Cyclohexane	110-82-7	8260D	ND		1.0	0.40	ug/L	1		
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260D	ND		1.0	0.40	ug/L	1		
Dibromochloromethane	124-48-1	8260D	ND		1.0	0.40	ug/L	1		
1,2-Dibromoethane (EDB)	106-93-4	8260D	ND		1.0	0.40	ug/L	1		
1,2-Dichlorobenzene	95-50-1	8260D	ND		1.0	0.40	ug/L	1		
1,3-Dichlorobenzene	541-73-1	8260D	ND		1.0	0.40	ug/L	1		
1,4-Dichlorobenzene	106-46-7	8260D	ND		1.0	0.40	ug/L	1		
Dichlorodifluoromethane	75-71-8	8260D	ND		2.0	0.60	ug/L	1		
1,1-Dichloroethane	75-34-3	8260D	ND		1.0	0.40	ug/L	1		
1,2-Dichloroethane	107-06-2	8260D	ND		1.0	0.40	ug/L	1		
1,1-Dichloroethene	75-35-4	8260D	ND		1.0	0.40	ug/L	1		
cis-1,2-Dichloroethene	156-59-2	8260D	ND		1.0	0.40	ug/L	1		
trans-1,2-Dichloroethene	156-60-5	8260D	ND		1.0	0.40	ug/L	1		
1,2-Dichloropropane	78-87-5	8260D	ND		1.0	0.40	ug/L	1		
cis-1,3-Dichloropropene	10061-01-5	8260D	ND		1.0	0.40	ug/L	1		
trans-1,3-Dichloropropene	10061-02-6	8260D	ND		1.0	0.40	ug/L	1		
Ethylbenzene	100-41-4	8260D	ND		1.0	0.40	ug/L	1		
2-Hexanone	591-78-6	8260D	ND		10	2.0	ug/L	1		
Isopropylbenzene	98-82-8	8260D	ND		1.0	0.40	ug/L	1		
Methyl acetate	79-20-9	8260D	ND		1.0	0.40	ug/L	1		
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260D	ND		1.0	0.40	ug/L	1		
4-Methyl-2-pentanone	108-10-1	8260D	ND		10	2.0	ug/L	1		
Methylcyclohexane	108-87-2	8260D	ND		5.0	0.40	ug/L	1		
Methylene chloride	75-09-2	8260D	1.0		1.0	0.40	ug/L	1		
Styrene	100-42-5	8260D	ND		1.0	0.41	ug/L	1		
1,1,2,2-Tetrachloroethane	79-34-5	8260D	ND		1.0	0.40	ug/L	1		
Tetrachloroethene	127-18-4	8260D	ND		1.0	0.40	ug/L	1		
Toluene	108-88-3	8260D	ND		1.0	0.40	ug/L	1		

LOQ = Limit of Quantitation

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

DL = Detection Limit

Q = Surrogate failure

ND = Not detected at or above the DL

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

J = Estimated result < LOQ and ≥ DL

L = LCS/LCSD failure

H = Out of holding time

W = Reported on wet weight basis

S = MS/MSD failure

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Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	5030B	8260D	1	04/28/2022 0204	JMM2		39612			
Parameter		CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run	
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	8260D	ND		1.0	0.42	ug/L	1	
1,2,4-Trichlorobenzene		120-82-1	8260D	ND		1.0	0.40	ug/L	1	
1,1,1-Trichloroethane		71-55-6	8260D	ND		1.0	0.40	ug/L	1	
1,1,2-Trichloroethane		79-00-5	8260D	ND		1.0	0.40	ug/L	1	
Trichloroethene		79-01-6	8260D	ND		1.0	0.40	ug/L	1	
Trichlorofluoromethane		75-69-4	8260D	ND		1.0	0.40	ug/L	1	
Vinyl chloride		75-01-4	8260D	ND		1.0	0.40	ug/L	1	
Xylenes (total)		1330-20-7	8260D	ND		1.0	0.40	ug/L	1	
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
Bromofluorobenzene		92	70-130							
1,2-Dichloroethane-d4		107	70-130							
Toluene-d8		99	70-130							

LOQ = Limit of Quantitation B = Detected in the method blank E = Quantitation of compound exceeded the calibration range DL = Detection Limit Q = Surrogate failure
 ND = Not detected at or above the DL N = Recovery is out of criteria P = The RPD between two GC columns exceeds 40% J = Estimated result < LOQ and ≥ DL L = LCS/LCSD failure
 H = Out of holding time W = Reported on wet weight basis S = MS/MSD failure

QC Summary

Inorganic non-metals - MB

Sample ID: XQ39184-001

Matrix: Aqueous

Batch: 39184

Analytical Method: 9056A

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Chloride	ND		1	1.0	0.25	mg/L	04/22/2022 1314

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - LCS

Sample ID: XQ39184-002

Matrix: Aqueous

Batch: 39184

Analytical Method: 9056A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Chloride	20	20		1	99	80-120	04/22/2022 1352

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MB

Sample ID: XQ39281-001

Matrix: Aqueous

Batch: 39281

Analytical Method: 9056A

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Sulfate	ND		1	1.0	0.25	mg/L	04/22/2022 1314

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - LCS

Sample ID: XQ39281-002

Matrix: Aqueous

Batch: 39281

Analytical Method: 9056A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Sulfate	20	20		1	98	80-120	04/22/2022 1352

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MB

Sample ID: XQ39284-001

Matrix: Aqueous

Batch: 39284

Analytical Method: 9056A

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Nitrate - N	ND		1	0.020	0.0050	mg/L	04/22/2022 1314

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - LCS

Sample ID: XQ39284-002

Matrix: Aqueous

Batch: 39284

Analytical Method: 9056A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Nitrate - N	0.80	0.82		1	103	80-120	04/22/2022 1352

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - LCS

Sample ID: XQ39343-002

Matrix: Aqueous

Batch: 39343

Analytical Method: SM 2320B-2011

Parameter	Spike Amount (mg CaCO3/L)	Result (mg CaCO3/L) Q	Dil	% Rec	%Rec Limit	Analysis Date
Alkalinity @ pH 4.5 su	100	110	1	106	90-110	04/25/2022 1643

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MB

Sample ID: XQ39491-001

Matrix: Aqueous

Batch: 39491

Analytical Method: SM 4500-S2 F-2011

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Sulfide	ND		1	1.0	1.0	mg/L	04/27/2022 1412

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - LCS

Sample ID: XQ39491-002

Matrix: Aqueous

Batch: 39491

Analytical Method: SM 4500-S2 F-2011

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Sulfide	10	9.3		1	93	80-120	04/27/2022 1412

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - MB

Sample ID: XQ40429-001

Matrix: Aqueous

Batch: 40429

Analytical Method: 9060A

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
TOC	ND		1	1.0	0.42	mg/L	05/05/2022 0421

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Inorganic non-metals - LCS

Sample ID: XQ40429-002

Matrix: Aqueous

Batch: 40429

Analytical Method: 9060A

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
TOC	20	18		1	91	90-110	05/05/2022 0444

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ39612-001

Matrix: Aqueous

Batch: 39612

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Acetone	ND		1	20	5.0	ug/L	04/27/2022 2224
Benzene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Bromodichloromethane	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Bromoform	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Bromomethane (Methyl bromide)	ND		1	2.0	0.40	ug/L	04/27/2022 2224
2-Butanone (MEK)	ND		1	10	2.0	ug/L	04/27/2022 2224
Carbon disulfide	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Carbon tetrachloride	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Chlorobenzene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Chloroethane	ND		1	2.0	0.40	ug/L	04/27/2022 2224
Chloroform	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Chloromethane (Methyl chloride)	ND		1	1.0	0.50	ug/L	04/27/2022 2224
Cyclohexane	ND		1	1.0	0.40	ug/L	04/27/2022 2224
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Dibromochloromethane	ND		1	1.0	0.40	ug/L	04/27/2022 2224
1,2-Dibromoethane (EDB)	ND		1	1.0	0.40	ug/L	04/27/2022 2224
1,2-Dichlorobenzene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
1,3-Dichlorobenzene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
1,4-Dichlorobenzene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Dichlorodifluoromethane	ND		1	2.0	0.60	ug/L	04/27/2022 2224
1,1-Dichloroethane	ND		1	1.0	0.40	ug/L	04/27/2022 2224
1,2-Dichloroethane	ND		1	1.0	0.40	ug/L	04/27/2022 2224
1,1-Dichloroethene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
cis-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
trans-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
1,2-Dichloropropane	ND		1	1.0	0.40	ug/L	04/27/2022 2224
cis-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
trans-1,3-Dichloropropene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Ethylbenzene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
2-Hexanone	ND		1	10	2.0	ug/L	04/27/2022 2224
Isopropylbenzene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Methyl acetate	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	04/27/2022 2224
4-Methyl-2-pentanone	ND		1	10	2.0	ug/L	04/27/2022 2224
Methylcyclohexane	ND		1	5.0	0.40	ug/L	04/27/2022 2224
Methylene chloride	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Styrene	ND		1	1.0	0.41	ug/L	04/27/2022 2224
1,1,2,2-Tetrachloroethane	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Tetrachloroethene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Toluene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	1.0	0.42	ug/L	04/27/2022 2224
1,2,4-Trichlorobenzene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
1,1,1-Trichloroethane	ND		1	1.0	0.40	ug/L	04/27/2022 2224
1,1,2-Trichloroethane	ND		1	1.0	0.40	ug/L	04/27/2022 2224

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ39612-001

Matrix: Aqueous

Batch: 39612

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Trichloroethene	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Trichlorofluoromethane	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Vinyl chloride	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Xylenes (total)	ND		1	1.0	0.40	ug/L	04/27/2022 2224
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		93	70-130				
1,2-Dichloroethane-d4		106	70-130				
Toluene-d8		99	70-130				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ39612-002

Matrix: Aqueous

Batch: 39612

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Acetone	100	90		1	90	60-140	04/27/2022 2119
Benzene	50	48		1	95	70-130	04/27/2022 2119
Bromodichloromethane	50	49		1	99	70-130	04/27/2022 2119
Bromoform	50	53		1	105	70-130	04/27/2022 2119
Bromomethane (Methyl bromide)	50	51		1	103	70-130	04/27/2022 2119
2-Butanone (MEK)	100	100		1	103	70-130	04/27/2022 2119
Carbon disulfide	50	50		1	100	70-130	04/27/2022 2119
Carbon tetrachloride	50	49		1	99	70-130	04/27/2022 2119
Chlorobenzene	50	48		1	96	70-130	04/27/2022 2119
Chloroethane	50	45		1	91	70-130	04/27/2022 2119
Chloroform	50	47		1	94	70-130	04/27/2022 2119
Chloromethane (Methyl chloride)	50	44		1	89	60-140	04/27/2022 2119
Cyclohexane	50	44		1	88	70-130	04/27/2022 2119
1,2-Dibromo-3-chloropropane (DBCP)	50	46		1	93	70-130	04/27/2022 2119
Dibromochloromethane	50	53		1	105	70-130	04/27/2022 2119
1,2-Dibromoethane (EDB)	50	50		1	100	70-130	04/27/2022 2119
1,2-Dichlorobenzene	50	49		1	98	70-130	04/27/2022 2119
1,3-Dichlorobenzene	50	50		1	99	70-130	04/27/2022 2119
1,4-Dichlorobenzene	50	47		1	94	70-130	04/27/2022 2119
Dichlorodifluoromethane	50	48		1	97	60-140	04/27/2022 2119
1,1-Dichloroethane	50	45		1	91	70-130	04/27/2022 2119
1,2-Dichloroethane	50	49		1	99	70-130	04/27/2022 2119
1,1-Dichloroethene	50	50		1	101	70-130	04/27/2022 2119
cis-1,2-Dichloroethene	50	47		1	94	70-130	04/27/2022 2119
trans-1,2-Dichloroethene	50	47		1	94	70-130	04/27/2022 2119
1,2-Dichloropropane	50	48		1	95	70-130	04/27/2022 2119
cis-1,3-Dichloropropene	50	50		1	100	70-130	04/27/2022 2119
trans-1,3-Dichloropropene	50	51		1	102	70-130	04/27/2022 2119
Ethylbenzene	50	51		1	102	70-130	04/27/2022 2119
2-Hexanone	100	100		1	102	70-130	04/27/2022 2119
Isopropylbenzene	50	53		1	107	70-130	04/27/2022 2119
Methyl acetate	50	46		1	93	70-130	04/27/2022 2119
Methyl tertiary butyl ether (MTBE)	50	45		1	91	70-130	04/27/2022 2119
4-Methyl-2-pentanone	100	100		1	100	70-130	04/27/2022 2119
Methylcyclohexane	50	50		1	101	70-130	04/27/2022 2119
Methylene chloride	50	48		1	96	70-130	04/27/2022 2119
Styrene	50	54		1	108	70-130	04/27/2022 2119
1,1,2,2-Tetrachloroethane	50	47		1	95	70-130	04/27/2022 2119
Tetrachloroethene	50	51		1	103	70-130	04/27/2022 2119
Toluene	50	50		1	101	70-130	04/27/2022 2119
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	53		1	106	70-130	04/27/2022 2119
1,2,4-Trichlorobenzene	50	43		1	86	70-130	04/27/2022 2119
1,1,1-Trichloroethane	50	49		1	99	70-130	04/27/2022 2119
1,1,2-Trichloroethane	50	49		1	97	70-130	04/27/2022 2119

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ39612-002

Matrix: Aqueous

Batch: 39612

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Trichloroethene	50	50		1	99	70-130	04/27/2022 2119
Trichlorofluoromethane	50	55		1	111	70-130	04/27/2022 2119
Vinyl chloride	50	50		1	100	70-130	04/27/2022 2119
Xylenes (total)	100	100		1	103	70-130	04/27/2022 2119
Surrogate	Q	% Rec			Acceptance Limit		
Bromofluorobenzene		95			70-130		
1,2-Dichloroethane-d4		96			70-130		
Toluene-d8		97			70-130		

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

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Volatile Organic Compounds by GC/MS (SIM) - MB

Sample ID: XQ39725-001

Matrix: Aqueous

Batch: 39725

Prep Method: 5030B

Analytical Method: 8260D (SIM)

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
1,4-Dioxane	ND		1	3.0	1.0	ug/L	04/28/2022 1451
Surrogate	Q	% Rec	Acceptance Limit				
1,2-Dichloroethane-d4		104	40-170				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS (SIM) - LCS

Sample ID: XQ39725-002

Matrix: Aqueous

Batch: 39725

Prep Method: 5030B

Analytical Method: 8260D (SIM)

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
1,4-Dioxane	50	47		1	93	70-130	04/28/2022 1403
Surrogate	Q	% Rec	Acceptance Limit				
1,2-Dichloroethane-d4		106					

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

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+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MB

Sample ID: XQ39778-001

Matrix: Aqueous

Batch: 39778

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
cis-1,2-Dichloroethene	ND		1	1.0	0.40	ug/L	04/28/2022 2236
Trichloroethene	ND		1	1.0	0.40	ug/L	04/28/2022 2236
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		95	70-130				
1,2-Dichloroethane-d4		91	70-130				
Toluene-d8		99	70-130				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - LCS

Sample ID: XQ39778-002

Matrix: Aqueous

Batch: 39778

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
cis-1,2-Dichloroethene	50	46		1	91	70-130	04/28/2022 2023
Trichloroethene	50	49		1	98	70-130	04/28/2022 2023
Surrogate	Q	% Rec			Acceptance Limit		
Bromofluorobenzene		98			70-130		
1,2-Dichloroethane-d4		92			70-130		
Toluene-d8		97			70-130		

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

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

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Volatile Organic Compounds by GC/MS - MS

Sample ID: XD21014-001MS

Matrix: Aqueous

Batch: 39778

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
cis-1,2-Dichloroethene	330	250	560		5	90	70-130	04/29/2022 0640
Trichloroethene	220	250	460		5	97	70-130	04/29/2022 0640
Surrogate	Q	% Rec	Acceptance Limit					
Bromofluorobenzene		97	70-130					
1,2-Dichloroethane-d4		91	70-130					
Toluene-d8		96	70-130					

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Volatile Organic Compounds by GC/MS - MSD

Sample ID: XD21014-001MD

Matrix: Aqueous

Batch: 39778

Prep Method: 5030B

Analytical Method: 8260D

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
cis-1,2-Dichloroethene	330	250	560		5	91	0.46	70-130	20	04/29/2022 0702
Trichloroethene	220	250	460		5	95	1.4	70-130	20	04/29/2022 0702
Surrogate	Q	% Rec	Acceptance Limit							
Bromofluorobenzene		97	70-130							
1,2-Dichloroethane-d4		90	70-130							
Toluene-d8		96	70-130							

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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TCLP Volatiles - MB

Sample ID: XQ40923-001

Matrix: Solid

Batch: 40923

Prep Method: 1311/5030B

Analytical Method: 8260D

Leachate Date: 04/25/2022 2203

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Benzene	ND		10	0.050	0.0040	mg/L	05/09/2022 1122
2-Butanone (MEK)	ND		10	0.10	0.020	mg/L	05/09/2022 1122
Carbon tetrachloride	ND		10	0.050	0.0040	mg/L	05/09/2022 1122
Chlorobenzene	ND		10	0.050	0.0040	mg/L	05/09/2022 1122
Chloroform	ND		10	0.050	0.0040	mg/L	05/09/2022 1122
1,2-Dichloroethane	ND		10	0.050	0.0040	mg/L	05/09/2022 1122
1,1-Dichloroethene	ND		10	0.050	0.0040	mg/L	05/09/2022 1122
Tetrachloroethene	ND		10	0.050	0.0040	mg/L	05/09/2022 1122
Trichloroethene	ND		10	0.050	0.0040	mg/L	05/09/2022 1122
Vinyl chloride	ND		10	0.010	0.0040	mg/L	05/09/2022 1122
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		87	70-130				
1,2-Dichloroethane-d4		98	70-130				
Toluene-d8		99	70-130				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

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+ = RPD is out of criteria

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

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TCLP Volatiles - LCS

Sample ID: XQ40923-002

Matrix: Solid

Batch: 40923

Prep Method: 1311/5030B

Analytical Method: 8260D

Leachate Date: 04/25/2022 2203

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Benzene	0.50	0.51		10	103	70-130	05/09/2022 1059
2-Butanone (MEK)	1.0	1.1		10	114	70-130	05/09/2022 1059
Carbon tetrachloride	0.50	0.51		10	101	70-130	05/09/2022 1059
Chlorobenzene	0.50	0.49		10	98	70-130	05/09/2022 1059
Chloroform	0.50	0.50		10	101	70-130	05/09/2022 1059
1,2-Dichloroethane	0.50	0.51		10	101	70-130	05/09/2022 1059
1,1-Dichloroethene	0.50	0.51		10	101	70-130	05/09/2022 1059
Tetrachloroethene	0.50	0.53		10	105	70-130	05/09/2022 1059
Trichloroethene	0.50	0.53		10	106	70-130	05/09/2022 1059
Vinyl chloride	0.50	0.49		10	99	70-130	05/09/2022 1059
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		98	70-130				
1,2-Dichloroethane-d4		96	70-130				
Toluene-d8		100	70-130				

LOQ = Limit of Quantitation

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

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TCLP Volatiles - MB

Sample ID: XQ41267-001

Matrix: Aqueous

Batch: 41267

Prep Method: 1311/5030B

Analytical Method: 8260D

Leachate Date: 04/27/2022 1756

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Benzene	ND		10	0.050	0.0040	mg/L	05/11/2022 1036
2-Butanone (MEK)	ND		10	0.10	0.020	mg/L	05/11/2022 1036
Carbon tetrachloride	ND		10	0.050	0.0040	mg/L	05/11/2022 1036
Chlorobenzene	ND		10	0.050	0.0040	mg/L	05/11/2022 1036
Chloroform	ND		10	0.050	0.0040	mg/L	05/11/2022 1036
1,2-Dichloroethane	ND		10	0.050	0.0040	mg/L	05/11/2022 1036
1,1-Dichloroethene	ND		10	0.050	0.0040	mg/L	05/11/2022 1036
Tetrachloroethene	ND		10	0.050	0.0040	mg/L	05/11/2022 1036
Trichloroethene	ND		10	0.050	0.0040	mg/L	05/11/2022 1036
Vinyl chloride	ND		10	0.010	0.0040	mg/L	05/11/2022 1036
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		105	70-130				
1,2-Dichloroethane-d4		107	70-130				
Toluene-d8		114	70-130				

LOQ = Limit of Quantitation

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DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

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+ = RPD is out of criteria

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TCLP Volatiles - LCS

Sample ID: XQ41267-002

Matrix: Aqueous

Batch: 41267

Prep Method: 1311/5030B

Analytical Method: 8260D

Leachate Date: 04/27/2022 1756

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Benzene	0.50	0.44		10	88	70-130	05/11/2022 0841
2-Butanone (MEK)	1.0	1.6	N	10	157	70-130	05/11/2022 0841
Carbon tetrachloride	0.50	0.52		10	105	70-130	05/11/2022 0841
Chlorobenzene	0.50	0.49		10	99	70-130	05/11/2022 0841
Chloroform	0.50	0.51		10	102	70-130	05/11/2022 0841
1,2-Dichloroethane	0.50	0.54		10	108	70-130	05/11/2022 0841
1,1-Dichloroethene	0.50	0.50		10	100	70-130	05/11/2022 0841
Tetrachloroethene	0.50	0.50		10	100	70-130	05/11/2022 0841
Trichloroethene	0.50	0.51		10	101	70-130	05/11/2022 0841
Vinyl chloride	0.50	0.46		10	91	70-130	05/11/2022 0841
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		104	70-130				
1,2-Dichloroethane-d4		103	70-130				
Toluene-d8		103	70-130				

LOQ = Limit of Quantitation

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DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

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TCLP Volatiles - MS

Sample ID: XD21014-003MS

Matrix: Aqueous

Batch: 41267

Prep Method: 1311/5030B

Analytical Method: 8260D

Leachate Date: 04/27/2022 1756

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Benzene	ND	0.50	0.49		10	99	70-130	05/11/2022 1924
2-Butanone (MEK)	ND	1.0	1.2		10	121	70-130	05/11/2022 1924
Carbon tetrachloride	ND	0.50	0.62		10	125	70-130	05/11/2022 1924
Chlorobenzene	ND	0.50	0.54		10	109	70-130	05/11/2022 1924
Chloroform	ND	0.50	0.57		10	114	70-130	05/11/2022 1924
1,2-Dichloroethane	ND	0.50	0.58		10	115	70-130	05/11/2022 1924
1,1-Dichloroethene	ND	0.50	0.61		10	122	70-130	05/11/2022 1924
Tetrachloroethene	0.023	0.50	0.63		10	122	70-130	05/11/2022 1924
Trichloroethene	0.034	0.50	0.63		10	120	70-130	05/11/2022 1924
Vinyl chloride	ND	0.50	0.56		10	112	70-130	05/11/2022 1924
Surrogate	Q	% Rec	Acceptance Limit					
Bromofluorobenzene		117	70-130					
1,2-Dichloroethane-d4		102	70-130					
Toluene-d8		121	70-130					

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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Dissolved Gases - MB

Sample ID: XQ39707-001

Matrix: Aqueous

Batch: 39707

Analytical Method: RSK - 175

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Ethane	ND		1	10	2.5	ug/L	04/28/2022 1302
Ethene	ND		1	10	2.5	ug/L	04/28/2022 1302
Methane	ND		1	10	2.5	ug/L	04/28/2022 1302
Propane	ND		1	15	5.0	ug/L	04/28/2022 1302

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

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Dissolved Gases - LCS

Sample ID: XQ39707-002

Matrix: Aqueous

Batch: 39707

Analytical Method: RSK - 175

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Ethane	550	630		1	114	70-130	04/28/2022 1127
Ethene	520	580		1	113	70-130	04/28/2022 1127
Methane	300	320		1	107	70-130	04/28/2022 1127
Propane	810	930		1	114	70-130	04/28/2022 1127

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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Dissolved Gases - LCSD

Sample ID: XQ39707-003

Matrix: Aqueous

Batch: 39707

Analytical Method: RSK - 175

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	%Rec Limit	% RPD Limit	Analysis Date
Ethane	550	660		1	119	4.2	70-130	30	04/28/2022 1141
Ethene	520	610		1	117	4.0	70-130	30	04/28/2022 1141
Methane	300	330		1	111	3.6	70-130	30	04/28/2022 1141
Propane	810	970		1	120	4.9	70-130	30	04/28/2022 1141

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and \geq DL

P = The RPD between two GC columns exceeds 40%

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

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Chain of Custody
and
Miscellaneous Documents



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 www.pacelabs.com

Number 130300

Client WSP, USA Address 1980 West Bank Play Big 100 St. 106 City Maricopa State GA Zip Code 30062		Report to Contact Mary Ann Brookshire Sampler's Signature Printed Name Tiffany Messer		Telephone No. / E-mail maryann.brookshire@wsp.com		Cassia No. 2346A Page 1 of 1	
Project Name Cennox International		Matrix Air <input type="checkbox"/> Soil <input type="checkbox"/> Sediment <input type="checkbox"/>		No. of Containers by Preservative Type VOC 11 8 1 TCEP 1 1 1 TCE 1 1 1 TCEP-VOC 1 1 1 TCEP-VOC 1 1 1		Barcode XD21014 Loto Remarks / Cooler I.D.	
Project No. 6102204037821 P.O. No.		Collection Time (Miles) HW-5 09:40 TCEP-VOC 10:00 TCEP-VOC 10:00		Possible Hazards (Identification) <input type="checkbox"/> Non-Hazard <input checked="" type="checkbox"/> Flammable <input type="checkbox"/> Poison <input type="checkbox"/> Unlabeled		OC Requirements (Specify)	
Sample ID / Description (Containers for each sample may be combined on one line)		Sample Disposal <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Destroy by Lab		1. Received by Date 4/21/22 Time 1134		Date Date Date	
1. Requisitioned by 		2. Received by Date Date		3. Received by Date Date		4. Laboratory received by Date 4-21-22 Time 1138	
3. Requisitioned by		4. Requisitioned by		LAB USE ONLY Received on Ice (Check) Yes <input type="checkbox"/> No <input type="checkbox"/> Receipt Temp. <input type="checkbox"/>		Temp Blank <input type="checkbox"/> Y <input type="checkbox"/> N	
Note: All samples are retained for four weeks from receipt unless other arrangements are made.							

Document Number: MFC02MFC-01

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Samples; PINK-Field/Client Copy



Samples Receipt Checklist (SRC) (ME0018C-15)

Issuing Authority: Pace ENV - WCOL

Revised:9/29/2020

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Sample Receipt Checklist (SRC)

Client: WSP USA

Cooler Inspected by/date: TEC / 04/21/2022

Lot #: XD21014

Means of receipt: <input type="checkbox"/> Pace <input type="checkbox"/> Client <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other:	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1. Were custody seals present on the cooler?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	2. If custody seals were present, were they intact and unbroken?
pH Strip ID: 21-842 Chlorine Strip ID: NA Tested by: TEC	
Original temperature upon receipt / Derived (Corrected) temperature upon receipt °C NA / NA °C NA / NA °C	
2.4 / 2.4 °C NA / NA °C NA / NA °C %Solid Snap-Cup ID: NA	
Method: <input checked="" type="checkbox"/> Temperature Blank <input type="checkbox"/> Against Bottles IR Gun ID: 5 IR Gun Correction Factor: 0 °C	
Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Ice Packs <input type="checkbox"/> Dry Ice <input type="checkbox"/> None	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	4. Is the commercial courier's packing slip attached to this form?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5. Were proper custody procedures (relinquished/received) followed?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6. Were sample IDs listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7. Were sample IDs listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8. Was collection date & time listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9. Was collection date & time listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10. Did all container label information (ID, date, time) agree with the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11. Were tests to be performed listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	13. Was adequate sample volume available?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	14. Were all samples received within 1/2 the holding time or 48 hours, whichever comes first?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	15. Were any samples containers (missing) excess (circle one) samples Not listed on COC?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA	16. For VOA and RSK-175 samples, were bubbles present >"pea-size" (1/4" or 6mm in diameter) in any of the VOA vials?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	19. Were all applicable NH ₃ /TKN/cyanide/phenol/625.1/608.3 (< 0.5mg/L) samples free of residual chlorine?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	20. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	21. Was the quote number listed on the container label? If yes, Quote # NA
Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)	
Sample(s) NA were received incorrectly preserved and were adjusted accordingly in sample receiving with NA mL of circle one: H2SO4, HNO3, HCl, NaOH using SR # NA	
Time of preservation NA. If more than one preservative is needed, please note in the comments below.	
Sample(s) NA were received with bubbles >6 mm in diameter.	
Samples(s) NA were received with TRC > 0.5 mg/L (If #19 is no) and were adjusted accordingly in sample receiving with: sodium thiosulfate (Na ₂ S ₂ O ₃) with Shealy ID: NA	
SR barcode labels applied by: TEC Date: 04/21/2022	

Comments: Sample TB-03 was in the shipment but not on the chain - 2 HCl vials.

Appendix F
Groundwater Historical Data Summary

Well	Sample Date	Acetone	Benzene	Bromodichloromethane	Bromoform	2-Butanone (MEK)	Carbon disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Dibromochloromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	MTBE	4-Methyl-2-pentanone	Methylene Chloride	Styrene	Tetrachloroethene	Toluene	1,2,4-Trichlorobenzene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl Chloride	Xylenes	1,1,1,2-Tetrachloroethane	n-Butylbenzene	sec-Butylbenzene	p-Isopropyltoluene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Naphthalene	1,4-Dioxane														
	04/19/22	<20	<1	<1	<1	<10	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	1.1	<1	<1	<1	<1	<10	<1	<1	86	<1	<1	<1	<1	<1	14	<1	<1																						
MW-2	09/01/99	<10	<2	<2	<2	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<10	<10		6.9	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2								
	09/24/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND							
	05/16/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					
	07/10/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					
	03/18/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					
	06/27/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
	12/16/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					
	03/11/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				
	06/17/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
	08/14/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	02/13/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
	06/02/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	10/07/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	02/18/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	06/02/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	09/28/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	12/20/05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	06/28/06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/02/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10/07/10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
09/27/12	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5			
10/01/14	<25	<1	<1	<1	<1	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5				
02/01/17	<20	<1	<1	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
10/18/17	<20	<1	<1	<1	<1	4.2 J	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.46 J	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
03/27/18	<20	<1	<1	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
10/02/18	<20	<1	<1	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
03/26/19	<20	<1	<1	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
10/14/19	<20	<1	<1	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1																														

Well	Sample Date	Acetone	Benzene	Bromodichloromethane	Bromoform	2-Butanone (MEK)	Carbon disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Dibromochloromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	MTBE	4-Methyl-2-pentanone	Methylene Chloride	Styrene	Tetrachloroethene	Toluene	1,2,4-Trichlorobenzene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl Chloride	Xylenes	1,1,1,2-Tetrachloroethane	n-Butylbenzene	sec-Butylbenzene	p-Isopropyltoluene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Naphthalene	1,4-Dioxane						
WS-3	12/12/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.03	ND	ND	ND	ND	ND	--	2.17	ND	ND	ND	ND	3.55	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--		
	03/11/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	1.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
	06/17/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
	08/14/03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	37.4	ND	ND	ND	ND	ND	--	ND	2.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
	02/13/04	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	11.9	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
	06/02/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
	10/07/04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

Concentrations reported in micrograms per liter
 < - concentration less than the stated reporting limit (RL), practical quantitation limit (PQL) or Limit of Quantitation (LOQ); detection limit for 1,4-dioxane is the detection limit (DL)
 ND - not detected above the RL, PQL or LOQ (limits not provided)
 J - estimated concentration
 -- constituent not analyzed

Appendix G

Ricker Method® Plume Stability Analysis Methodology, Input Data and Metrics Summary

APPENDIX G: GROUNDWATER PLUME ANALYTICS METHODOLOGY

A Groundwater Plume Analytics® evaluation, including a Ricker Method® Plume Stability Analysis, was conducted for the Upper Shallow aquifer at the Site using groundwater analytical data provided by Environmental Resources Management (ERM) through 2014, analytical data collected by EarthCon through June 2021, and analytical data collected by WSP for April 2022. The Groundwater Plume Analytics® evaluation was conducted for the following constituents of concern (COC):

Chloroethenes

- Tetrachloroethene (PCE)
- Trichloroethene (TCE)
- cis-1,2-Dichloroethene (cis-1,2-DCE)
- trans-1,2-Dichloroethene (trans-1,2-DCE)
- 1,1-Dichloroethene (1,1-DCE)
- Vinyl Chloride
- Total chloroethenes (molar basis)

Aromatic Hydrocarbons

- Toluene
- Ethylbenzene
- Xylenes

Chloroethanes

- 1,1,2-Trichloroethane (1,1,2-TCA)
- 1,1,1-Trichloroethane (1,1,1-TCA)
- 1,2-Dichloroethane (1,2-DCA)
- 1,1-Dichloroethane (1,1-DCA)
- Total chloroethanes (molar basis)

This Groundwater Plume Analytics® evaluation included the following elements:

- Ricker Method® Plume Stability Analysis
- Total molar trend and molar fraction analysis for chloroethenes and chloroethanes
- Ricker Method® Spatial Change Indicator™
- Geochemical MNA isopleths
- Groundwater elevation trend evaluation

1.0 RICKER METHOD® PLUME STABILITY ANALYSIS

The Ricker Method® Plume Stability analysis was conducted using procedures described in *A Practical Method to Evaluate Ground Water Contaminant Plume Stability* (Ricker, 2008). The Ricker Method® plume stability analysis compares relative changes in contaminant plume characteristics over time, including area, average concentration, and mass indicator. Note that the term “mass indicator” does not necessarily represent the entire mass in the subsurface but rather an expression of it based on a fixed assumption of aquifer thickness and porosity to serve as a way of combining plume area and average concentration into one meaningful metric. Calculation of the actual constituent subsurface mass is often a very complicated exercise, and usually more data inputs are needed than are available from typical delineation and/or

remediation well information. Because the plume mass value is not necessarily a measure of actual contaminant mass, the term “mass indicator” is used to describe this plume characteristic. Since the main purpose of the plume stability analysis is to observe relative changes in plume characteristics between sampling events, applying constants (i.e., porosity and aquifer thickness) to the mass calculation has no bearing on the usefulness of the output of the analysis (i.e., relative rate of change in plume mass).

To demonstrate that a plume is decreasing or stable, temporal changes in these calculated values should result in an overall decreasing or stable trend. An increasing trend in any of these values may indicate that the plume is not stable and/or is possibly expanding. Further details concerning trend analysis and determination of a trend conclusion are provided in Section 5.1.3.

1.1 Data Assessment and Input File Development

Data used in the Ricker Method[®] plume stability analysis for the constituents listed above for the Upper Shallow aquifer at the Site are tabulated in Appendix G. Groundwater analytical data were available from 1999 through 2022.

Not all wells were sampled during each sampling event, and gaps were filled by either interpolating between those events with available data or by extrapolating values using available data from previous or subsequent events. Other scientific and/or statistical assumptions and adjustments to the data, consistent with the Ricker Method[®], were necessary to complete the analysis. These adjustments are identified in the Ricker Method[®] input data set summarized in Appendix G. The assumptions and adjustments used in the analysis include the following:

- In most cases non-detect concentrations were evaluated with an assigned concentration value of the stated detection limit. Also, in cases where non-detect results with elevated detection limits were encountered, professional judgment was used to assign a concentration value. For instances in this case with detectable results or non-detect results with a lower detection limit before and after, a value was assigned by interpolation, using the events before and after. For instances with no detectable result or non-detect result with a lower detection limit following the event in question, the last known detectable result was used. These instances are indicated by green shading in Appendix G. In every case the assigned value was based on actual results (detectable value or non-detect at a lower

detection limit). Assigned values for non-detect concentrations are provided in Appendix G.

- For sampling events where a particular monitoring well was not sampled, but analytical data prior to and subsequent to are available, the events were assigned values by linearly interpolating between the closest prior and subsequent sampling event. Instances where these values are assigned are indicated by orange shading in Appendix G.

1.2 Groundwater Plume Map Development

As part of the Ricker Method[®] plume stability analysis, constituent concentration isopleth maps, or plume maps, were developed for the groundwater monitoring events that occurred from September 1999 through April 2022 for the aforementioned constituents in the Upper Shallow aquifer. The lower or deep aquifer (as designated by the “D” wells) was evaluated on a well-by-well basis due to the limited number of wells in this aquifer zone. Plume maps for each compound were delineated to the base contour values listed below. A magenta dashed line was also provided on the plume isopleth maps to denote the Maximum Contaminant Level (MCL) for each constituent.

<u>Constituent</u>	<u>Base Contour (µg/L)</u>	<u>MCL (µg/L)</u>
PCE	5	5
TCE	5	5
1,1-DCE	7	7
cis-1,2-DCE	5	70
trans-1,2-DCE	5	100
Vinyl Chloride	2	2
1,1,2-TCA	5	5
1,1,1-TCA	5	200
1,2-DCA	5	5
1,1-DCA	5	--
Ethylbenzene	5	1000
Toluene	5	700
Xylenes	5	10000

Notes:

-- = MCL not available

Total chloroethene plume maps were developed by converting the individual contours of PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE, and vinyl chloride to a molar concentration basis, at or above their respective base contours, and summing them to calculate a total molar plume for each event. Total chloroethane plume maps were developed in the same manner using the contours for 1,1,2-TCA, 1,1,1-TCA, 1,2-DCA, and 1,1-DCA.

The area of the constituent-specific plume for each sampling event was calculated using the mathematical features of the contouring software to develop the isopleth maps (i.e., Surfer® 17.1.288, by Golden Software, Inc.). The kriging gridding method was used with the default linear variogram to develop the isopleth maps. Surfer® was also used for the computation of the average concentration of each plume as described in Ricker (2008). The plume area and average concentrations were then used to calculate the plume mass indicator for each event. To calculate the plume mass indicator, a porosity of 30% and an aquifer thickness of 10 feet were used based on the lengths of the screens for most of the wells installed in the Upper Shallow aquifer.

Concentration isopleth maps for each constituent are included in Appendix H. As discussed above, plume stability characteristics were calculated for each of the sampling events included in the analysis. The plume stability characteristics of area, average concentration, and mass indicator, as well as the location of the center of mass, are also provided on each isopleth map.

1.3 Statistical Methodology

To evaluate the stability of each constituent plume, temporal trends of the characteristics were evaluated statistically. The area, average concentration, and mass indicator for each event were plotted to observe changes in each parameter from event to event. The results of the plume stability analyses for each constituent are discussed in Section 6.0.

The temporal trends in the plume characteristic values were statistically evaluated using both linear regression techniques and the Mann-Kendall Test. Linear regression analyses were conducted using the regression analysis utility in Microsoft Excel, version 2204 (Office 365). The Mann-Kendall Tests were also conducted using procedures described in Gilbert (1987). Linear regression is a parametric statistical procedure that is typically used for analyzing trends in data over time. The Mann-Kendall Test is a non-parametric statistical test; therefore, it is not dependent upon the magnitude of the data, assumptions of distribution, or regularly spaced sampling events.

The Mann-Kendall Test is used to assess whether a data set exhibits an increasing or decreasing trend at a predetermined level of significance (α). The test requires the calculation of a statistic "S" which is the difference between the number of paired differences that are positive, minus the number that are negative. If S is a large positive value, then there is evidence of an increasing trend in the data. If S is a large negative value, then there is evidence of a decreasing trend in the

data. The null hypothesis, H_0 , for the Mann-Kendall Test is that there is no temporal trend in the data. The alternative hypothesis, H_A , is that of either an upward trend or a downward trend.

If the null hypothesis is not rejected (i.e., no trend could be established statistically), it is expected that the plume is stable. However, a stable plume may not in fact be evident because the statistical test does not consider magnitude or variation in the data. For example, a data set can exhibit a large amount of scatter, yet the test could conclude that the plume is stable. A methodology to counter the problem of scatter in the data involves comparing the calculated S statistic, a calculated confidence factor ($1-\alpha$), and the coefficient of variation for the data set. The S statistic indicates the direction of the trend, the confidence factor shows how strong the trend is, and the coefficient of variation indicates the degree of scatter in the data.

When evaluating trends using linear regression, trends may be obscured by scatter in the data. This condition is typically indicated by a low coefficient of determination (R^2) value. Even with low R^2 values (i.e., high degree of scatter) a confidence interval can still be constructed on the slope of the regression line. As described in AFCEE (2006), assuming the sign (i.e., positive or negative) of the estimated log-slope is correct, a level of confidence that the slope is not zero can be easily determined. The overall trend in the data may thus still be determined, where low levels of confidence correspond to stable or indeterminate trends and higher levels of confidence (e.g., > 90%) indicate the stronger likelihood of a trend.

For the plume stability analysis, significant trends are concluded when the calculated confidence factor is greater than 90%. If the confidence factor is less than 90%, the plume is considered stable or indeterminate (i.e., “no trend”).

In many cases the statistical results for both linear regression and the Mann-Kendall Test agree with each other. In the case where two different results are obtained (e.g., one stable trend and one decreasing trend), visual analysis and professional judgment are used to determine the overall trend result.

Trend analysis results for the respective constituent plume area, average concentration, and mass indicator are discussed for each constituent in Section 6.0.

1.4 Plume Center of Mass Evaluation

In addition to temporal trend analyses of plume characteristics, the center of plume mass (COM) was calculated. Evaluation of COM movement should be considered in conjunction with the other plume characteristics to assess the overall stability of a plume. For example, a stable or decreasing plume may actually show migration of the COM in the downgradient direction in instances when focused remediation occurred in a source area of a Site. In this case, this downgradient shift is due to the rapid loss of mass in the upgradient portion of the plume, as opposed to a gradual migration resulting from advective transport.

The plume COM is depicted on each constituent plume map included in Appendix H. For total chloroethenes and total chloroethanes, the COM data is plotted on a Site map, with each COM location (representing a discrete sampling event) color coded according to event date, to enable visual assessment of COM location through time. Additionally, each COM movement is represented by a vector that indicates the direction and distance of COM movement from one sampling event to the next. The COM vectors are then plotted together with each vector tail anchored at a common point to show variability in COM movement (similar to a wind rose diagram). The COM vectors are then added together to create the COM Net Movement as indicated by the red arrow on the map and vector diagram.

2.0 TOTAL MOLAR PLUME TREND AND MOLAR FRACTION ANALYSIS

In addition to the metrics described above, the CVOC groundwater data was also evaluated on a molar basis for both total chloroethenes and total chloroethanes. To evaluate the CVOC plumes on a molar basis, the total moles of the plume as well as the molar fraction of each constituent were calculated.

During reductive dechlorination, a parent compound loses a chlorine atom which is replaced by a lighter hydrogen atom and converts to a daughter compound (e.g., TCE to DCE). In the conversion from a parent compound to a daughter compound, one molecule of the parent (e.g., TCE) produces one molecule of the daughter (e.g., DCE). The number of molecules remains the same, but the daughter compound weighs less than the parent compound. Thus, the weight-based concentration decreases but the molar concentration (i.e., number of molecules) remains the same. In our analysis, the total molar concentration and mass (total moles) only decrease once the parent-daughter compounds have been mineralized to benign end products (i.e., ethene/ethane, carbon dioxide, water, and chloride ions). Therefore, a decreasing trend in total

moles provides evidence of complete attenuation of CVOC compounds. Conversely, an increasing trend in total moles might indicate potential new or episodic releases within a plume.

Using a molar-based approach, we can also evaluate the molar fractions of individual parent-daughter compounds. As parent compounds degrade to daughter compounds, the molar fraction of the parent compounds decreases while the fraction of daughter compounds increases. Therefore, observing the molar fractions of the individual constituents along with the trend in total moles can provide further insight into various attenuation processes that may be occurring on the Site. For example, a decreasing trend in total moles with an increasing fraction of a daughter compound (e.g., cis-1,2-DCE) may indicate evidence of biological reductive dechlorination. Whereas a decreasing trend in total moles with individual constituent fractions that remain relatively constant may indicate the occurrence of non-selective destructive processes such as abiotic chemical reduction, anthropogenic recovery, or other non-biological processes.

3.0 RICKER METHOD® SPATIAL CHANGE INDICATOR™ METHODOLOGY

The Ricker Method® Spatial Change Indicator™ evaluation (US Pat. No. 10,400,583) shows relative changes in the plume over time. For this analysis, each plume map in a particular series is compared to the first plume map in the series by subtracting from a selected reference date to create a new isopleth map that shows areas of the plume that decreased in concentration (indicated by blue shading), increased in concentration (indicated by red shading), or did not change (indicated by clear or no shading). The visual aspect of this analysis allows the viewer to observe patterns of plume behavior over time.

This analysis also has a quantitative component. Each Ricker Method® Spatial Change Indicator™ map also includes the percent change (increase or decrease) of the plume between each event and the baseline event in terms of area, average concentration, and mass indicator as calculated using Ricker Method® procedures. Additionally, for areas that increased or decreased in mass indicator, representative magnitudes of mass increase (red shaded areas) and mass decrease (blue shaded areas) are included on each map. A Spatial Change Indicator™ analysis for total chloroethenes and total chloroethanes is included in Appendix H.

Ricker Method® Plume Stability Analysis Input Data

PCE Upper Shallow Input Data

	Sep. 1999	Mar. 2000	Mar. 2001	Sep. 2001	Mar. 2002	Sep. 2002	Mar. 2003	Sep. 2003	Mar. 2004	Sep. 2004
MW-1	79	<2.0	16	5.6	4.6	18	4.4	<2.0	6	<2.0
MW-2	6.9	8	NS (7.4)	7.1	7.2	8.8	4	3.6	4	4.4
MW-3	4,700	<2.0	NS (198)	297	125	147	709	41	273	251
MW-4	2.4	<2.0	NS (2.6)	NS (2.8)	3.1	1.2	<2.0	<2.0	1.7	1.8
MW-5	NA	2,230	NS (1,327)	872	2,470	1,850	1,120	1,570	1,330	2,710
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	NA	NA	7,860	5.1	16,400	11,700	1,280	NS (7,273)	13,200	12,300
MW-8	NA	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0
MW-9	NA	NA	NA	NA	<2.0	3.3	NS (2.7)	<2.0	<2.0	<2.0
MW-10	NA	NA	NA	8.6	8.7	NS (13)	17	4.4	11	6
MW-11	NA	NA	NA	NA	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0
MW-12	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-13	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0	NS (1.7)
MW-14	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0	NS (1.7)
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

PCE Upper Shallow Input Data

	Mar. 2005	Sep. 2005	Mar. 2006	Sep. 2006	Mar. 2007	Sep. 2007	Mar. 2008	Sep. 2008	Mar. 2009	Sep. 2009
MW-1	18	0.94	<1.0	<1.0	8.6	<5.0	<20 (3.0)	<1.0	<2.0	<20 (1.5)
MW-2	4.2	2.7	1.3	NS (1.3)	NS (1.3)	NS (1.3)	NS (1.3)	NS (1.3)	NS (1.3)	NS (1.3)
MW-3	455	763	108	187	35	<100	290	760	1,500	320
MW-4	<5.0 (3.5)	5.3	<1.0	<1.0	2.1	2.4	<1.0	11	<1.0	4
MW-5	800	253	336	275	326	<20	290	<1.0	<10 (1.0)	<10 (1.0)
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	6,440	6,560	6,060	2,900	3,530	<100	41	<1.0	<10 (1.0)	<10 (1.0)
MW-8	51	<5.0	1.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<5.0 (1.7)	1.5	<1.0	<1.0	4.3	<1.0	<1.0	<1.0	<1.0	<1.0
MW-10	2.6	1.5	2.7	4.1	7.5	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	<5.0 (1.5)	1.1	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-12	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	<5.0 (1.5)	<5.0 (1.2)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	<5.0 (1.5)	<5.0 (1.2)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

PCE Upper Shallow Input Data

	Mar. 2010	Sep. 2010	Sep. 2012	Sep. 2014	Feb. 2017	Oct. 2017	Mar. 2018	Oct. 2018	Mar. 2019	Oct. 2019
MW-1	<1.0	<1.0	<100 (1.0)	<1.0	<20 (3.1)	<10 (3.7)	<5.0 (4.0)	<20 (4.5)	4.9	<20 (4.9)
MW-2	1.3	<1.0	<5.0 (1.0)	<1.0	4.8	<1.0	<1.0	<1.0	<1.0	<1.0
MW-3	290	380	<2,500 (191)	2.4	<200 (2.4)	<100 (2.4)	<200 (2.4)	<500 (2.4)	<200 (2.4)	<200 (2.4)
MW-4	<1.0	3.1	<5.0 (3.5)	4	0.67	2.4	4.6	2	2.4	3.3
MW-5	<1.0	<1.0	70	NS (93)	120	110	85	130	130	19
MW-6R	NA	NA	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7	<1.0	<1.0	<100 (1.0)	<1.0	<5.0 (2.0)	<20 (2.3)	<20 (2.4)	<50 (2.7)	<5.0 (2.9)	3.1
MW-8	<1.0	<1.0	<5.0 (1.0)	<1.0	NS (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	NS (1.0)	NS (1.0)	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS (1.0)
MW-12	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	NS (1.0)	NS (1.0)	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-15	NA	NA	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-16	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

PCE Upper Shallow Input Data

	Apr. 2020	Jun. 2021	Apr. 2022
MW-1	<10 (4.9)	<20 (4.9)	<10 (4.9)
MW-2	<1.0	<1.0	<1.0
MW-3	<500 (2.4)	<200 (2.4)	<200 (2.4)
MW-4	3.2	4.2	2.5
MW-5	110	120	150
MW-6R	<1.0	<1.0	NS (1.0)
MW-7	<10 (2.7)	<10 (1.7)	<1.0
MW-8	<1.0	<1.0	NS (1.0)
MW-9	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<1.0
MW-11	<1.0	<1.0	<1.0
MW-12	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	<1.0	<1.0	<1.0
MW-15	<1.0	<1.0	<1.0
MW-16	<1.0	<1.0	<1.0
MW-17	<1.0	<1.0	<1.0
MW-18	NA	NA	390

Notes:




All concentrations in µg/l

NA: Well not installed or abandoned.

<5.00: Analyte not detected. Detection limit used.

<100 (21.0): Analyte not detected. Elevated detection limit, interpolated or extrapolated value shown.

NS (21.0): Well not sampled, interpolated or extrapolated value shown - refer to shading for more specific explanation.

-  Interpolated between two sampling events.
-  Well not installed. Extrapolated from a sampling event.
-  Non-Sampled Well

TCE Upper Shallow Input Data

	Sep. 1999	Mar. 2000	Mar. 2001	Sep. 2001	Mar. 2002	Sep. 2002	Mar. 2003	Sep. 2003	Mar. 2004	Sep. 2004
MW-1	60	29	24	8.9	8	14	5	<2.0	4.2	1.5
MW-2	<2.0	2	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-3	60	<2.0	NS (58)	87	2,180	1,610	3,870	51	185	197
MW-4	7.4	<2.0	NS (2.1)	NS (2.2)	2.2	<2.0	<2.0	<2.0	1.6	<2.0
MW-5	NA	1,970	NS (1,451)	1,190	3,380	2,360	1,560	1,630	1,640	2,540
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	NA	NA	4,150	9.6	3,690	7,700	1,030	NS (3,152)	5,250	5,900
MW-8	NA	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0
MW-9	NA	NA	NA	NA	<2.0	2.8	NS (2.4)	<2.0	<2.0	<2.0
MW-10	NA	NA	NA	3.6	3.5	1.2	3.3	<2.0	2.4	1.4
MW-11	NA	NA	NA	NA	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0
MW-12	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-13	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0	NS (1.7)
MW-14	NA	NA	NA	NA	NA	NA	NA	<2.0	2.6	NS (2.3)
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TCE Upper Shallow Input Data

	Mar. 2005	Sep. 2005	Mar. 2006	Sep. 2006	Mar. 2007	Sep. 2007	Mar. 2008	Sep. 2008	Mar. 2009	Sep. 2009
MW-1	9.1	2.4	<1.0	1.5	14	<5.0	<20 (3.0)	<1.0	<2.0	<20 (1.5)
MW-2	<5.0 (1.7)	<5.0 (1.3)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-3	181	521	185	77	484	2,400	1,000	2,900	5,600	1,400
MW-4	<5.0 (2.5)	3	<1.0	<1.0	4.4	2.2	<1.0	19	<1.0	5
MW-5	1,870	1,530	878	722	690	<20	560	<1.0	<10 (1.0)	<10 (1.0)
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	3,090	5,390	4,640	3,220	5,850	1,300	250	38	<10	<10 (5.5)
MW-8	40	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	12	<1.0	<1.0	<1.0	<1.0	<1.0
MW-10	1	1.4	<1.0	1.1	24	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	<5.0 (1.2)	0.44	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-12	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	<5.0 (1.5)	<5.0 (1.2)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	2.1	2.2	1.7	NS (1.6)	NS (1.5)	NS (1.4)	NS (1.3)	NS (1.2)	NS (1.1)	<1.0
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TCE Upper Shallow Input Data

	Mar. 2010	Sep. 2010	Sep. 2012	Sep. 2014	Feb. 2017	Oct. 2017	Mar. 2018	Oct. 2018	Mar. 2019	Oct. 2019
MW-1	<1.0	<1.0	<100 (1.0)	<1.0	<20 (3.9)	<10 (4.6)	<5.0	<20 (5.8)	6.3	<20 (6.3)
MW-2	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-3	1,000	1,600	<2,500 (808)	18	<200 (18)	<100 (18)	<200 (18)	<500 (18)	<200 (18)	<200 (18)
MW-4	<1.0	3.3	<5.0 (4.1)	4.9	1.3	5.3	5.9	4.7	4.6	5.3
MW-5	<1.0	<1.0	244	NS (211)	170	190	230	220	250	160
MW-6R	NA	NA	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7	<1.0	<1.0	<100 (1.0)	<1.0	<5.0 (3.6)	<20 (4.3)	<20 (4.7)	<50 (5.3)	<5.0	6.4
MW-8	<1.0	<1.0	<5.0 (1.0)	<1.0	NS (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	NS (1.0)	NS (1.0)	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS (1.0)
MW-12	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	NS (1.0)	NS (1.0)	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-15	NA	NA	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-16	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TCE Upper Shallow Input Data

	Apr. 2020	Jun. 2021	Apr. 2022
MW-1	<10 (6.3)	<20 (6.3)	<10 (6.3)
MW-2	<1.0	<1.0	<1.0
MW-3	<500 (18)	<200 (18)	<200 (18)
MW-4	4.5	6.9	4.9
MW-5	170	210	220
MW-6R	<1.0	<1.0	NS (1.0)
MW-7	<10 (4.7)	0.69	0.66
MW-8	<1.0	<1.0	NS (1.0)
MW-9	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<1.0
MW-11	<1.0	<1.0	<1.0
MW-12	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	<1.0	<1.0	<1.0
MW-15	<1.0	<1.0	<1.0
MW-16	<1.0	<1.0	<1.0
MW-17	<1.0	<1.0	<1.0
MW-18	NA	NA	550

Notes:




All concentrations in µg/l

NA: Well not installed or abandoned.

<5.00: Analyte not detected. Detection limit used.

<100 (21.0): Analyte not detected. Elevated detection limit, interpolated or extrapolated value shown.

NS (21.0): Well not sampled, interpolated or extrapolated value shown - refer to shading for more specific explanation.

-  Interpolated between two sampling events.
-  Well not installed. Extrapolated from a sampling event.
-  Non-Sampled Well

cis-1,2-DCE Upper Shallow Input Data

	Sep. 1999	Mar. 2000	Mar. 2001	Sep. 2001	Mar. 2002	Sep. 2002	Mar. 2003	Sep. 2003	Mar. 2004	Sep. 2004
MW-1	18,000	17,600	10,600	8,580	5,090	6,550	8,820	6,130	12,300	5,200
MW-2	<2.0	<2.0	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-3	660	2,540	NS (1,895)	1,570	6,800	20,600	17,700	2,760	1,600	1,920
MW-4	4.5	<2.0	NS (3.2)	NS (3.7)	4.3	<2.0	<2.0	1.2	2.3	<2.0
MW-5	NA	<2.0	NS (424)	636	1,280	1,290	978	1,110	1,120	2,000
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	NA	NA	5,880	10,900	4,140	8,480	2,480	NS (4,581)	6,660	6,500
MW-8	NA	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0
MW-9	NA	NA	NA	NA	<2.0	<2.0	NS (2.0)	<2.0	<2.0	<2.0
MW-10	NA	NA	NA	2.3	5.5	4.3	1.7	3.4	1.5	2
MW-11	NA	NA	NA	NA	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0
MW-12	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-13	NA	NA	NA	NA	NA	NA	NA	37	12	NS (7.4)
MW-14	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0	NS (1.5)
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

cis-1,2-DCE Upper Shallow Input Data

	Mar. 2005	Sep. 2005	Mar. 2006	Sep. 2006	Mar. 2007	Sep. 2007	Mar. 2008	Sep. 2008	Mar. 2009	Sep. 2009
MW-1	8,200	12,400	5,280	7,530	3,120	700	4,800	2,200	2,800	6,500
MW-2	<5.0 (1.7)	<5.0 (1.3)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-3	2,060	3,500	2,840	2,450	13,100	29,000	21,000	46,000	42,000	45,000
MW-4	<5.0 (2.2)	2.5	<1.0	1.2	10	2.7	<1.0	11	<1.0	5.8
MW-5	1,860	3,010	2,850	2,620	3,060	3,500	2,200	2,800	2,400	2,000
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	2,690	5,290	2,930	2,480	5,810	21,000	3,900	7,300	550	340
MW-8	21	<5.0	<1.0	<1.0	12	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<5.0 (1.1)	0.28	<1.0	<1.0	7.7	<1.0	<1.0	<1.0	<1.0	<1.0
MW-10	1	1.9	<1.0	1.3	20	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	<5.0 (1.2)	0.32	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-12	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	3	2.7	1.7	NS	NS	NS	NS	NS	NS	NS
MW-14	<5.0 (1.0)	0.54	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

cis-1,2-DCE Upper Shallow Input Data

	Mar. 2010	Sep. 2010	Sep. 2012	Sep. 2014	Feb. 2017	Oct. 2017	Mar. 2018	Oct. 2018	Mar. 2019	Oct. 2019
MW-1	5,300	1,200	1,650	734	1,800	1,100	420	890	1,400	1,000
MW-2	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-3	45,000	41,000	46,100	9,460	11,000	7,300	16,000	24,000	15,000	24,000
MW-4	<1.0	2.6	<5.0 (3.7)	4.8	1.1	6.8	6.8	5.9	4.1	7.2
MW-5	2,100	1,600	750	NS (773)	800	490	280	300	320	450
MW-6R	NA	NA	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7	870	850	1,890	200	640	1,100	1,700	3,100	440	810
MW-8	<1.0	<1.0	<5.0 (1.0)	<1.0	NS (1.0)	<1.0	<1.0	<1.0	<1.0	2.5
MW-9	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.97
MW-11	NS (1.0)	NS (1.0)	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS (1.0)
MW-12	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-14	NS (1.0)	NS (1.0)	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-15	NA	NA	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-16	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

cis-1,2-DCE Upper Shallow Input Data

	Apr. 2020	Jun. 2021	Apr. 2022
MW-1	670	1,700	1,400
MW-2	<1.0	<1.0	<1.0
MW-3	30,000	24,000	16,000
MW-4	6.6	8.7	5.5
MW-5	320	370	330
MW-6R	<1.0	<1.0	NS (1.0)
MW-7	560	190	710
MW-8	<1.0	<1.0	NS (1.0)
MW-9	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<1.0
MW-11	<1.0	<1.0	<1.0
MW-12	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS	NS	NS
MW-14	<1.0	<1.0	<1.0
MW-15	<1.0	<1.0	<1.0
MW-16	<1.0	<1.0	<1.0
MW-17	<1.0	<1.0	<1.0
MW-18	NA	NA	9.2

Notes:


All concentrations in µg/l


NA: Well not installed or abandoned.

<5.00: Analyte not detected. Detection limit used.

<100 (21.0): Analyte not detected. Elevated detection limit, interpolated or extrapolated value shown.

NS (21.0): Well not sampled, interpolated or extrapolated value shown - refer to shading for more specific explanation.

 Interpolated between two sampling events.

 Well not installed. Extrapolated from a sampling event.

 Non-Sampled Well

trans-1,2-DCE Upper Shallow Input Data

	Sep. 1999	Mar. 2000	Mar. 2001	Sep. 2001	Mar. 2002	Sep. 2002	Mar. 2003	Sep. 2003	Mar. 2004	Sep. 2004
MW-1	60	361	78	54	24	80	48	15	153	49
MW-2	<2.0	<2.0	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-3	14	40	NS (15)	<2.0	123	240	190	88	53	35
MW-4	<2.0	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-5	NA	6	NS (7.1)	7.6	22	21	24	16	14	21
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	NA	NA	69	54	46	103	62	NS (80)	97	150
MW-8	NA	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0
MW-9	NA	NA	NA	NA	<2.0	<2.0	NS (2.0)	<2.0	<2.0	<2.0
MW-10	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-11	NA	NA	NA	NA	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0
MW-12	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-13	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0	NS (1.7)
MW-14	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0	NS (1.7)
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

trans-1,2-DCE Upper Shallow Input Data

	Mar. 2005	Sep. 2005	Mar. 2006	Sep. 2006	Mar. 2007	Sep. 2007	Mar. 2008	Sep. 2008	Mar. 2009	Sep. 2009
MW-1	58	133	<1.0	32	14	<5.0	22	<1.0	15	28
MW-2	<5.0 (1.7)	<5.0 (1.3)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-3	31	19	35	36	140	220	170	300	370	320
MW-4	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-5	26	26	17	20	20	24	16	18	15	14
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	35	44	<1.0	16	24	<100 (16)	<20 (8.7)	<1.0	<10 (1.0)	<10 (1.0)
MW-8	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-10	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	<5.0 (1.7)	<5.0 (1.3)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-12	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	<5.0 (1.5)	<5.0 (1.2)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	<5.0 (1.5)	<5.0 (1.2)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

trans-1,2-DCE Upper Shallow Input Data

	Mar. 2010	Sep. 2010	Sep. 2012	Sep. 2014	Feb. 2017	Oct. 2017	Mar. 2018	Oct. 2018	Mar. 2019	Oct. 2019
MW-1	21	5.6	<100 (5.0)	4.3	<20 (9.6)	11	2	<20 (3.6)	4.8	<20 (5.7)
MW-2	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-3	270	320	<2,500 (249)	179	85	53	170	270	120	250
MW-4	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-5	10	9.2	<25 (9.2)	NS (9.2)	9.2	6.6	2.6	3.4	2.9	3.9
MW-6R	NA	NA	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7	<1.0	<1.0	<100 (1.3)	1.6	<5.0 (3.8)	<20 (4.4)	<20 (4.8)	<50 (5.4)	<5.0	6.3
MW-8	<1.0	<1.0	<5.0 (1.0)	<1.0	NS (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	NS (1.0)	NS (1.0)	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS (1.0)
MW-12	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	NS (1.0)	NS (1.0)	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-15	NA	NA	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-16	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

trans-1,2-DCE Upper Shallow Input Data

	Apr. 2020	Jun. 2021	Apr. 2022
MW-1	<10 (6.4)	8.1	5
MW-2	<1.0	<1.0	<1.0
MW-3	260	210	130
MW-4	<1.0	<1.0	<1.0
MW-5	2.7	3.7	2.8
MW-6R	<1.0	<1.0	NS (1.0)
MW-7	4.2	0.71	5.9
MW-8	<1.0	<1.0	NS (1.0)
MW-9	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<1.0
MW-11	<1.0	<1.0	<1.0
MW-12	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	<1.0	<1.0	<1.0
MW-15	<1.0	<1.0	<1.0
MW-16	<1.0	<1.0	<1.0
MW-17	<1.0	<1.0	<1.0
MW-18	NA	NA	<1.0

Notes:




All concentrations in µg/l

NA: Well not installed or abandoned.

<5.00: Analyte not detected. Detection limit used.

<100 (21.0): Analyte not detected. Elevated detection limit, interpolated or extrapolated value shown.

NS (21.0): Well not sampled, interpolated or extrapolated value shown - refer to shading for more specific explanation.

-  Interpolated between two sampling events.
-  Well not installed. Extrapolated from a sampling event.
-  Non-Sampled Well

1,1-DCE Upper Shallow Input Data

	Sep. 1999	Mar. 2000	Mar. 2001	Sep. 2001	Mar. 2002	Sep. 2002	Mar. 2003	Sep. 2003	Mar. 2004	Sep. 2004
MW-1	26	68	27	<2.0	12	19	20	1.3	25	18
MW-2	<2.0	<2.0	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-3	40	247	NS (194)	167	1,220	2,560	2,740	176	480	270
MW-4	<2.0	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-5	NA	2.9	NS (3.3)	3.5	5	5.5	<2.0	2.6	4.4	5.1
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	NA	NA	2.9	24	12	22	5.1	NS (6.5)	7.9	12
MW-8	NA	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0
MW-9	NA	NA	NA	NA	<2.0	<2.0	NS (2.0)	<2.0	<2.0	<2.0
MW-10	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-11	NA	NA	NA	NA	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0
MW-12	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-13	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0	NS (3.5)
MW-14	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0	NS (3.5)
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

1,1-DCE Upper Shallow Input Data

	Mar. 2005	Sep. 2005	Mar. 2006	Sep. 2006	Mar. 2007	Sep. 2007	Mar. 2008	Sep. 2008	Mar. 2009	Sep. 2009
MW-1	16	18	<1.0	18	14	<5.0	<20 (3.0)	<1.0	5.3	<20 (3.1)
MW-2	<5.0	<5.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-3	189	186	195	164	954	2,300	1,700	3,000	3,800	2,500
MW-4	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-5	6	7.9	<1.0	8.2	<10 (6.4)	<20 (4.6)	<10 (2.8)	<1.0	<10 (2.6)	<10 (4.3)
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	7.5	13	<1.0	8.6	15	<100 (10)	<20 (5.8)	<1.0	<10 (1.0)	<10 (1.0)
MW-8	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-10	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	<5.0	<5.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-12	<5.0	<5.0	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	<5.0	<5.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	<5.0	<5.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

1,1-DCE Upper Shallow Input Data

	Mar. 2010	Sep. 2010	Sep. 2012	Sep. 2014	Feb. 2017	Oct. 2017	Mar. 2018	Oct. 2018	Mar. 2019	Oct. 2019
MW-1	<1.0	2	<100 (1.9)	1.8	<20 (4.0)	<10 (4.6)	<5.0	<20 (5.0)	<10 (5.0)	<20 (5.0)
MW-2	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-3	2,400	2,100	<2,500 (1,357)	616	420	330	690	950	540	840
MW-4	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-5	5.9	<1.0	<25 (2.2)	NS (3.5)	<5.0	<10 (6.0)	6.6	1.7	<5.0	<5.0
MW-6R	NA	NA	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7	<1.0	<1.0	<100 (1.0)	<1.0	<5.0	<20 (5.0)	<20 (5.0)	<50 (5.0)	<5.0	<5.0
MW-8	<1.0	<1.0	<5.0	<1.0	NS (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	NS (1.7)	NS (2.3)	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS (1.0)
MW-12	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	NS (1.7)	NS (2.3)	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-15	NA	NA	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-16	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

1,1-DCE Upper Shallow Input Data

	Apr. 2020	Jun. 2021	Apr. 2022
MW-1	<10 (5.0)	<20 (5.0)	<10 (5.0)
MW-2	<1.0	<1.0	<1.0
MW-3	990	760	400
MW-4	<1.0	<1.0	<1.0
MW-5	<5.0	2.4	1.4
MW-6R	<1.0	<1.0	NS (1.0)
MW-7	<10 (3.8)	<1.0	1.2
MW-8	<1.0	<1.0	NS (1.0)
MW-9	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<1.0
MW-11	<1.0	<1.0	<1.0
MW-12	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	<1.0	<1.0	<1.0
MW-15	<1.0	<1.0	<1.0
MW-16	<1.0	<1.0	<1.0
MW-17	<1.0	<1.0	<1.0
MW-18	NA	NA	13

Notes:




All concentrations in µg/l

NA: Well not installed or abandoned.

<5.00: Analyte not detected. Detection limit used.

<100 (21.0): Analyte not detected. Elevated detection limit, interpolated or extrapolated value shown.

NS (21.0): Well not sampled, interpolated or extrapolated value shown - refer to shading for more specific explanation.

-  Interpolated between two sampling events.
-  Well not installed. Extrapolated from a sampling event.
-  Non-Sampled Well

Vinyl Chloride Upper Shallow Input Data

	Sep. 1999	Mar. 2000	Mar. 2001	Sep. 2001	Mar. 2002	Sep. 2002	Mar. 2003	Sep. 2003	Mar. 2004	Sep. 2004
MW-1	26	68	27	<2.0	12	19	20	1.3	25	18
MW-2	<2.0	<2.0	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-3	40	247	NS (194)	167	1,220	2,560	2,740	176	480	270
MW-4	<2.0	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-5	NA	2.9	NS (3.3)	3.5	5	5.5	<2.0	2.6	4.4	5.1
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	NA	NA	2.9	24	12	22	5.1	NS (6.5)	7.9	12
MW-8	NA	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0
MW-9	NA	NA	NA	NA	<2.0	<2.0	NS (2.0)	<2.0	<2.0	<2.0
MW-10	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-11	NA	NA	NA	NA	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0
MW-12	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-13	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0	NS (3.5)
MW-14	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0	NS (3.5)
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Vinyl Chloride Upper Shallow Input Data

	Mar. 2005	Sep. 2005	Mar. 2006	Sep. 2006	Mar. 2007	Sep. 2007	Mar. 2008	Sep. 2008	Mar. 2009	Sep. 2009
MW-1	16	18	<1.0	18	14	<5.0	<20 (3.0)	<1.0	5.3	<20 (3.1)
MW-2	<5.0	<5.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-3	189	186	195	164	954	2,300	1,700	3,000	3,800	2,500
MW-4	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-5	6	7.9	<1.0	8.2	<10 (6.4)	<20 (4.6)	<10 (2.8)	<1.0	<10 (2.6)	<10 (4.3)
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	7.5	13	<1.0	8.6	15	<100 (10)	<20 (5.8)	<1.0	<10 (1.0)	<10 (1.0)
MW-8	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-10	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	<5.0	<5.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-12	<5.0	<5.0	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	<5.0	<5.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	<5.0	<5.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Vinyl Chloride Upper Shallow Input Data

	Mar. 2010	Sep. 2010	Sep. 2012	Sep. 2014	Feb. 2017	Oct. 2017	Mar. 2018	Oct. 2018	Mar. 2019	Oct. 2019
MW-1	<1.0	2	<100 (1.9)	1.8	<20 (4.0)	<10 (4.6)	<5.0	<20 (5.0)	<10 (5.0)	<20 (5.0)
MW-2	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-3	2,400	2,100	<2,500 (1,357)	616	420	330	690	950	540	840
MW-4	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-5	5.9	<1.0	<25 (2.2)	NS (3.5)	<5.0	<10 (6.0)	6.6	1.7	<5.0	<5.0
MW-6R	NA	NA	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7	<1.0	<1.0	<100 (1.0)	<1.0	<5.0	<20 (5.0)	<20 (5.0)	<50 (5.0)	<5.0	<5.0
MW-8	<1.0	<1.0	<5.0	<1.0	NS (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	NS (1.7)	NS (2.3)	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS (1.0)
MW-12	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	NS (1.7)	NS (2.3)	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-15	NA	NA	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-16	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Vinyl Chloride Upper Shallow Input Data

	Apr. 2020	Jun. 2021	Apr. 2022
MW-1	<10 (5.0)	<20 (5.0)	<10 (5.0)
MW-2	<1.0	<1.0	<1.0
MW-3	990	760	400
MW-4	<1.0	<1.0	<1.0
MW-5	<5.0	2.4	1.4
MW-6R	<1.0	<1.0	NS (1.0)
MW-7	<10 (3.8)	<1.0	1.2
MW-8	<1.0	<1.0	NS (1.0)
MW-9	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<1.0
MW-11	<1.0	<1.0	<1.0
MW-12	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	<1.0	<1.0	<1.0
MW-15	<1.0	<1.0	<1.0
MW-16	<1.0	<1.0	<1.0
MW-17	<1.0	<1.0	<1.0
MW-18	NA	NA	13

Notes:




All concentrations in µg/l

NA: Well not installed or abandoned.

<5.00: Analyte not detected. Detection limit used.

<100 (21.0): Analyte not detected. Elevated detection limit, interpolated or extrapolated value shown.

NS (21.0): Well not sampled, interpolated or extrapolated value shown - refer to shading for more specific explanation.

-  Interpolated between two sampling events.
-  Well not installed. Extrapolated from a sampling event.
-  Non-Sampled Well

1,1,2-TCA Upper Shallow Input Data

	Sep. 1999	Mar. 2000	Mar. 2001	Sep. 2001	Mar. 2002	Sep. 2002	Mar. 2003	Sep. 2003	Mar. 2004	Sep. 2004
MW-1	<2.0	<2.0	<2.0	<2.0	<2.0	12	<2.0	<2.0	<2.0	<2.0
MW-2	<2.0	<2.0	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-3	20	<2.0	NS (53)	78	727	231	1,670	105	144	<2.0
MW-4	<2.0	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-5	NA	<2.0	NS (2.4)	2.5	1.2	<2.0	<2.0	1.6	<2.0	<2.0
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	NA	NA	<2.0	<2.0	7.7	12	<2.0	NS (2.0)	<2.0	<2.0
MW-8	NA	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0
MW-9	NA	NA	NA	NA	<2.0	<2.0	NS (2.0)	<2.0	<2.0	<2.0
MW-10	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-11	NA	NA	NA	NA	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0
MW-12	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-13	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0	NS (1.7)
MW-14	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0	NS (1.7)
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

1,1,2-TCA Upper Shallow Input Data

	Mar. 2005	Sep. 2005	Mar. 2006	Sep. 2006	Mar. 2007	Sep. 2007	Mar. 2008	Sep. 2008	Mar. 2009	Sep. 2009
MW-1	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<10 (1.0)	<5.0 (1.0)	<20 (1.0)	<1.0	<2.0	<20 (1.5)
MW-2	<5.0 (1.7)	<5.0 (1.3)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-3	90	<5.0	73	22	407	1,200	690	3,200	4,200	3,800
MW-4	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-5	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<10 (1.0)	<20 (1.0)	<10 (1.0)	<1.0	<10 (1.0)	<10 (1.0)
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	3.9	<5.0 (2.4)	<1.0	3.2	4.9	<100 (3.6)	<20 (2.3)	<1.0	<10 (1.0)	<10 (1.0)
MW-8	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-10	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	<5.0 (1.7)	<5.0 (1.3)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-12	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	<5.0 (1.5)	<5.0 (1.2)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	<5.0 (1.5)	<5.0 (1.2)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

1,1,2-TCA Upper Shallow Input Data

	Mar. 2010	Sep. 2010	Sep. 2012	Sep. 2014	Feb. 2017	Oct. 2017	Mar. 2018	Oct. 2018	Mar. 2019	Oct. 2019
MW-1	<1.0	<1.0	<100 (1.0)	<1.0	<20 (1.0)	<10 (1.0)	<5.0 (1.0)	<20 (1.0)	<10 (1.0)	<20 (1.0)
MW-2	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-3	3,100	2,700	2,860	88	<200 (88)	<100 (88)	<200 (88)	<500 (88)	<200 (88)	<200 (88)
MW-4	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	0.84	0.99	0.67	0.67	0.81
MW-5	<1.0	<1.0	<25 (1.3)	NS (1.6)	<5.0 (1.9)	<10 (2.0)	2.1	1	<5.0 (0.95)	<5.0 (0.89)
MW-6R	NA	NA	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7	<1.0	<1.0	<100 (1.0)	<1.0	<5.0 (1.0)	<20 (1.0)	<20 (1.0)	<50 (1.0)	<5.0 (1.0)	<5.0 (1.0)
MW-8	<1.0	<1.0	<5.0 (1.0)	<1.0	NS (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	NS (1.0)	NS (1.0)	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS (1.0)
MW-12	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	NS (1.0)	NS (1.0)	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-15	NA	NA	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-16	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

1,1,2-TCA Upper Shallow Input Data

	Apr. 2020	Jun. 2021	Apr. 2022
MW-1	<10 (1.0)	<20 (1.0)	<10 (1.0)
MW-2	<1.0	<1.0	<1.0
MW-3	<500 (88)	<200 (88)	<200 (88)
MW-4	0.61	<1.0	0.51
MW-5	<5.0 (0.83)	<5.0 (0.70)	0.61
MW-6R	<1.0	<1.0	NS (1.0)
MW-7	<10 (1.0)	<1.0	<1.0
MW-8	<1.0	<1.0	NS (1.0)
MW-9	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<1.0
MW-11	<1.0	<1.0	<1.0
MW-12	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	<1.0	<1.0	<1.0
MW-15	<1.0	<1.0	<1.0
MW-16	<1.0	<1.0	<1.0
MW-17	<1.0	<1.0	<1.0
MW-18	NA	NA	17

Notes:




All concentrations in µg/l

NA: Well not installed or abandoned.

<5.00: Analyte not detected. Detection limit used.

<100 (21.0): Analyte not detected. Elevated detection limit, interpolated or extrapolated value shown.

NS (21.0): Well not sampled, interpolated or extrapolated value shown - refer to shading for more specific explanation.

-  Interpolated between two sampling events.
-  Well not installed. Extrapolated from a sampling event.
-  Non-Sampled Well

1,1,1-TCA Upper Shallow Input Data

	Sep. 1999	Mar. 2000	Mar. 2001	Sep. 2001	Mar. 2002	Sep. 2002	Mar. 2003	Sep. 2003	Mar. 2004	Sep. 2004
MW-1	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-2	<2.0	<2.0	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-3	20	383	NS (130)	<2.0	1,740	451	4,600	145	316	<2.0
MW-4	<2.0	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-5	NA	<2.0	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	NA	NA	<2.0	<2.0	<2.0	10	<2.0	NS (2.0)	<2.0	<2.0
MW-8	NA	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0
MW-9	NA	NA	NA	NA	<2.0	<2.0	NS (2.0)	<2.0	<2.0	<2.0
MW-10	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-11	NA	NA	NA	NA	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0
MW-12	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-13	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0	NS (1.7)
MW-14	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0	NS (1.7)
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

1,1,1-TCA Upper Shallow Input Data

	Mar. 2005	Sep. 2005	Mar. 2006	Sep. 2006	Mar. 2007	Sep. 2007	Mar. 2008	Sep. 2008	Mar. 2009	Sep. 2009
MW-1	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<10 (1.0)	<5.0 (1.0)	<20 (1.0)	<1.0	<2.0	<20 (1.5)
MW-2	<5.0 (1.7)	<5.0 (1.3)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-3	102	<5.0	50	28	734	2,600	1,700	2,900	4,400	2,400
MW-4	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-5	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<10 (1.0)	<20 (1.0)	<10 (1.0)	<1.0	<10 (1.0)	<10 (1.0)
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	1.2	<100 (1.2)	<20 (1.1)	<1.0	<10 (1.0)	<10 (1.0)
MW-8	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-10	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	<5.0 (1.7)	<5.0 (1.3)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-12	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	<5.0 (1.5)	<5.0 (1.2)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	<5.0 (1.5)	<5.0 (1.2)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

1,1,1-TCA Upper Shallow Input Data

	Mar. 2010	Sep. 2010	Sep. 2012	Sep. 2014	Feb. 2017	Oct. 2017	Mar. 2018	Oct. 2018	Mar. 2019	Oct. 2019
MW-1	<1.0	<1.0	<100 (1.0)	<1.0	<20 (1.0)	<10 (1.0)	<5.0 (1.0)	<20 (1.0)	<10 (1.0)	<20 (1.0)
MW-2	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-3	2,400	1,400	<2,500 (710)	20	<200 (20)	<100 (20)	<200 (20)	<500 (20)	<200 (20)	<20
MW-4	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-5	<1.0	<1.0	<25 (1.0)	NS (1.0)	<5.0 (1.0)	<10 (1.0)	<5.0 (1.0)	<1.0	<5.0 (1.0)	<5.0 (1.0)
MW-6R	NA	NA	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7	<1.0	<1.0	<100 (1.0)	<1.0	<5.0 (1.0)	<20 (1.0)	<20 (1.0)	<50 (1.0)	<5.0 (1.0)	<5.0 (1.0)
MW-8	<1.0	<1.0	<5.0 (1.0)	<1.0	NS (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	NS (1.0)	NS (1.0)	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS (1.0)
MW-12	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	NS (1.0)	NS (1.0)	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-15	NA	NA	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-16	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

1,1,1-TCA Upper Shallow Input Data

	Apr. 2020	Jun. 2021	Apr. 2022
MW-1	<10 (1.0)	<20 (1.0)	<10 (1.0)
MW-2	<1.0	<1.0	<1.0
MW-3	<500 (20)	<200 (20)	<200 (20)
MW-4	<1.0	<1.0	<1.0
MW-5	<5.0 (1.0)	<5.0 (1.0)	<1.0
MW-6R	<1.0	<1.0	NS (1.0)
MW-7	<10 (1.0)	<1.0	<1.0
MW-8	<1.0	<1.0	NS (1.0)
MW-9	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<1.0
MW-11	<1.0	<1.0	<1.0
MW-12	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	<1.0	<1.0	<1.0
MW-15	<1.0	<1.0	<1.0
MW-16	<1.0	<1.0	<1.0
MW-17	<1.0	<1.0	<1.0
MW-18	NA	NA	0.89

Notes:




All concentrations in µg/l

NA: Well not installed or abandoned.

<5.00: Analyte not detected. Detection limit used.

<100 (21.0): Analyte not detected. Elevated detection limit, interpolated or extrapolated value shown.

NS (21.0): Well not sampled, interpolated or extrapolated value shown - refer to shading for more specific explanation.

-  Interpolated between two sampling events.
-  Well not installed. Extrapolated from a sampling event.
-  Non-Sampled Well

1,2-DCA Upper Shallow Input Data

	Sep. 1999	Mar. 2000	Mar. 2001	Sep. 2001	Mar. 2002	Sep. 2002	Mar. 2003	Sep. 2003	Mar. 2004	Sep. 2004
MW-1	4.2	<2.0	2.3	1.9	4.5	1.9	1	<2.0	2.2	<2.0
MW-2	<2.0	<2.0	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-3	7.8	<2.0	NS (8.1)	11	57	26	69	17	5.7	<2.0
MW-4	<2.0	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-5	NA	<2.0	NS (2.0)	<2.0	1.2	<2.0	<2.0	<2.0	<2.0	<2.0
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	NA	NA	<2.0	2	<2.0	<2.0	<2.0	NS (2.0)	<2.0	<2.0
MW-8	NA	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0
MW-9	NA	NA	NA	NA	<2.0	<2.0	NS (2.0)	<2.0	<2.0	<2.0
MW-10	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-11	NA	NA	NA	NA	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0
MW-12	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-13	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0	NS (1.7)
MW-14	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0	NS (1.7)
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

1,2-DCA Upper Shallow Input Data

	Mar. 2005	Sep. 2005	Mar. 2006	Sep. 2006	Mar. 2007	Sep. 2007	Mar. 2008	Sep. 2008	Mar. 2009	Sep. 2009
MW-1	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<10 (1.0)	<5.0 (1.0)	<20 (1.0)	<1.0	<2.0	<20 (1.5)
MW-2	<5.0 (1.7)	<5.0 (1.3)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-3	7.3	<5.0	12	12	32	<100 (33)	34	<1.0	<200 (1.0)	<200 (1.0)
MW-4	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-5	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<10 (1.0)	<20 (1.0)	<10 (1.0)	<1.0	<10 (1.0)	<10 (1.0)
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<100 (1.0)	<20 (1.0)	<1.0	<10 (1.0)	<10 (1.0)
MW-8	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-10	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	<5.0 (1.7)	<5.0 (1.3)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-12	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	<5.0 (1.5)	<5.0 (1.2)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	<5.0 (1.5)	<5.0 (1.2)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

1,2-DCA Upper Shallow Input Data

	Mar. 2010	Sep. 2010	Sep. 2012	Sep. 2014	Feb. 2017	Oct. 2017	Mar. 2018	Oct. 2018	Mar. 2019	Oct. 2019
MW-1	<1.0	<1.0	<100 (1.0)	<1.0	<20 (1.0)	<10 (1.0)	<5.0 (1.0)	<20 (1.0)	<10 (1.0)	<20 (1.0)
MW-2	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-3	<1.0	<1.0	<2,500 (14)	28	<200 (40)	43	<200 (55)	<500 (71)	<200 (83)	99
MW-4	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-5	<1.0	<1.0	<25 (0.94)	NS (0.88)	<5.0 (0.80)	<10 (0.78)	<5.0 (0.77)	0.75	<5.0 (1.5)	2.6
MW-6R	NA	NA	<5.0 (1.0)	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7	<1.0	<1.0	<100 (1.0)	<1.0	<5.0 (1.0)	<20 (1.0)	<20 (1.0)	<50 (1.0)	<5.0 (1.0)	<5.0 (1.0)
MW-8	<1.0	<1.0	<5.0 (1.0)	<1.0	NS (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	NS (1.0)	NS (1.0)	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS (1.0)
MW-12	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	NS (1.0)	NS (1.0)	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-15	NA	NA	<5.0 (1.0)	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-16	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

1,2-DCA Upper Shallow Input Data

	Apr. 2020	Jun. 2021	Apr. 2022
MW-1	<10 (1.0)	<20 (1.0)	<10 (1.0)
MW-2	<1.0	<1.0	<1.0
MW-3	<500 (99)	100	<200 (100)
MW-4	<1.0	<1.0	<1.0
MW-5	<5.0 (2.2)	<5.0 (1.3)	0.64
MW-6R	<1.0	<1.0	NS (1.0)
MW-7	<10 (1.0)	<1.0	<1.0
MW-8	<1.0	<1.0	NS (1.0)
MW-9	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<1.0
MW-11	<1.0	<1.0	<1.0
MW-12	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	<1.0	<1.0	<1.0
MW-15	<1.0	<1.0	<1.0
MW-16	<1.0	<1.0	<1.0
MW-17	<1.0	<1.0	<1.0
MW-18	NA	NA	<1.0

Notes:




All concentrations in µg/l

NA: Well not installed or abandoned.

<5.00: Analyte not detected. Detection limit used.

<100 (21.0): Analyte not detected. Elevated detection limit, interpolated or extrapolated value shown.

NS (21.0): Well not sampled, interpolated or extrapolated value shown - refer to shading for more specific explanation.

-  Interpolated between two sampling events.
-  Well not installed. Extrapolated from a sampling event.
-  Non-Sampled Well

1,1-DCA Upper Shallow Input Data

	Sep. 1999	Mar. 2000	Mar. 2001	Sep. 2001	Mar. 2002	Sep. 2002	Mar. 2003	Sep. 2003	Mar. 2004	Sep. 2004
MW-1	<2.0	<2.0	2.2	<2.0	<2.0	<2.0	1.5	1.3	153	<2.0
MW-2	<2.0	<2.0	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-3	127	460	NS (243)	133	1,900	3,040	3,060	214	486	<2.0
MW-4	<2.0	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-5	NA	6.9	NS (5.5)	4.8	1.9	1.6	<2.0	<2.0	2.3	4.4
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	NS (2.0)	<2.0	<2.0
MW-8	NA	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0
MW-9	NA	NA	NA	NA	<2.0	<2.0	NS (2.0)	<2.0	<2.0	<2.0
MW-10	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-11	NA	NA	NA	NA	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0
MW-12	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-13	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0	NS (1.7)
MW-14	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0	NS (1.7)
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

1,1-DCA Upper Shallow Input Data

	Mar. 2005	Sep. 2005	Mar. 2006	Sep. 2006	Mar. 2007	Sep. 2007	Mar. 2008	Sep. 2008	Mar. 2009	Sep. 2009
MW-1	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	7.4	<5.0	<20 (3.0)	<1.0	<2.0	<20 (1.5)
MW-2	<5.0 (1.7)	<5.0 (1.3)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-3	208	<5.0	339	235	1,200	2,400	1,800	3,900	4,100	4,000
MW-4	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-5	<5.0 (3.3)	<5.0 (2.1)	<1.0	4.2	4.4	<20 (3.3)	<10 (2.1)	<1.0	<10 (2.8)	<10 (4.5)
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<100 (1.0)	<20 (1.0)	<1.0	<10 (1.0)	<10 (1.0)
MW-8	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-10	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	<5.0 (1.7)	<5.0 (1.3)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-12	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	<5.0 (1.5)	<5.0 (1.2)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	<5.0 (1.5)	<5.0 (1.2)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

1,1-DCA Upper Shallow Input Data

	Mar. 2010	Sep. 2010	Sep. 2012	Sep. 2014	Feb. 2017	Oct. 2017	Mar. 2018	Oct. 2018	Mar. 2019	Oct. 2019
MW-1	<1.0	<1.0	<100 (1.0)	<1.0	<20 (1.0)	<10 (1.0)	<5.0 (1.0)	<20 (1.0)	<10 (1.0)	<20 (1.0)
MW-2	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-3	3,800	3,900	4,140	908	890	680	1,200	1,800	1,100	1,500
MW-4	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-5	6.3	<1.0	<25 (1.8)	NS (2.7)	3.7	<10 (5.5)	6.6	5.3	4.6	7.6
MW-6R	NA	NA	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7	<1.0	<1.0	<100 (1.0)	<1.0	<5.0 (1.0)	<20 (1.0)	<20 (1.0)	<50 (1.0)	<5.0 (1.0)	<5.0 (1.0)
MW-8	<1.0	<1.0	<5.0 (1.0)	<1.0	NS (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	NS (1.0)	NS (1.0)	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS (1.0)
MW-12	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	NS (1.0)	NS (1.0)	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-15	NA	NA	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-16	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

1,1-DCA Upper Shallow Input Data

	Apr. 2020	Jun. 2021	Apr. 2022
MW-1	<10 (1.0)	<20 (1.0)	<10 (1.0)
MW-2	<1.0	<1.0	<1.0
MW-3	1,800	1,500	960
MW-4	<1.0	<1.0	<1.0
MW-5	2.5	4.7	2.6
MW-6R	<1.0	<1.0	NS (1.0)
MW-7	<10 (1.0)	<1.0	<1.0
MW-8	<1.0	<1.0	NS (1.0)
MW-9	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<1.0
MW-11	<1.0	<1.0	<1.0
MW-12	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	<1.0	<1.0	<1.0
MW-15	<1.0	<1.0	<1.0
MW-16	<1.0	<1.0	<1.0
MW-17	<1.0	<1.0	<1.0
MW-18	NA	NA	0.49

Notes:




All concentrations in µg/l

NA: Well not installed or abandoned.

<5.00: Analyte not detected. Detection limit used.

<100 (21.0): Analyte not detected. Elevated detection limit, interpolated or extrapolated value shown.

NS (21.0): Well not sampled, interpolated or extrapolated value shown - refer to shading for more specific explanation.

-  Interpolated between two sampling events.
-  Well not installed. Extrapolated from a sampling event.
-  Non-Sampled Well

Toluene Upper Shallow Input Data

	Sep. 1999	Mar. 2000	Mar. 2001	Sep. 2001	Mar. 2002	Sep. 2002	Mar. 2003	Sep. 2003	Mar. 2004	Sep. 2004
MW-1	1,050	979	436	396	317	344	265	19	766	422
MW-2	<2.0	<2.0	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-3	<2.0	7.9	NS (4.9)	3.3	121	228	253	4.5	<2.0	<2.0
MW-4	<2.0	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-5	NA	<2.0	NS (2.0)	<2.0	1.6	<2.0	<2.0	<2.0	<2.0	<2.0
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	NA	NA	69	446	70	116	19	NS (67)	114	57
MW-8	NA	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0
MW-9	NA	NA	NA	NA	<2.0	<2.0	NS (2.0)	<2.0	<2.0	<2.0
MW-10	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-11	NA	NA	NA	NA	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0
MW-12	NA	NA	NA	NA	<2.0	<2.0	<2.0	2.5	<2.0	<2.0
MW-13	NA	NA	NA	NA	NA	NA	NA	2.5	<2.0	NS (2.0)
MW-14	NA	NA	NA	NA	NA	NA	NA	<2.0	11	NS (8.2)
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Toluene Upper Shallow Input Data

	Mar. 2005	Sep. 2005	Mar. 2006	Sep. 2006	Mar. 2007	Sep. 2007	Mar. 2008	Sep. 2008	Mar. 2009	Sep. 2009
MW-1	264	524	110	209	26	<5.0	64	28	18	69
MW-2	<5.0 (1.7)	<5.0 (1.3)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-3	<5.0 (1.9)	1.8	<1.0	3.9	68	220	170	400	520	380
MW-4	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-5	<5.0 (1.1)	0.25	<1.0	<1.0	<10 (1.0)	<20 (1.0)	<10 (1.0)	<1.0	<10 (1.0)	<10 (1.0)
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	35	59	<1.0	23	39	<100 (35)	<20	27	<10	25
MW-8	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-10	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	<5.0 (1.7)	<5.0 (1.3)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-12	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	2	<5.0 (1.5)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	<5.0	<5.0 (3.0)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Toluene Upper Shallow Input Data

	Mar. 2010	Sep. 2010	Sep. 2012	Sep. 2014	Feb. 2017	Oct. 2017	Mar. 2018	Oct. 2018	Mar. 2019	Oct. 2019
MW-1	20	2.5	<100 (5.1)	7.8	15	5	<5.0	<20 (5.0)	<10 (5.0)	<20 (5.0)
MW-2	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-3	390	350	<2,500 (213)	77	<200 (100)	<100	110	<500 (102)	97	150
MW-4	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-5	<1.0	<1.0	<25 (1.0)	NS (1.0)	<5.0 (1.0)	<10 (1.0)	<5.0 (1.0)	<1.0	<5.0 (1.0)	<5.0 (1.0)
MW-6R	NA	NA	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7	33	7.2	<100 (5.0)	2.8	<5.0 (4.0)	<20 (4.3)	<20 (4.5)	<50 (4.7)	<5.0 (4.9)	<5.0
MW-8	<1.0	<1.0	<5.0 (1.0)	<1.0	NS (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	NS (1.0)	NS (1.0)	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS (1.0)
MW-12	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	NS (1.0)	NS (1.0)	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.53
MW-15	NA	NA	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-16	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Toluene Upper Shallow Input Data

	Apr. 2020	Jun. 2021	Apr. 2022
MW-1	<10 (5.0)	<20 (5.0)	<10 (5.0)
MW-2	<1.0	<1.0	<1.0
MW-3	220	190	120
MW-4	<1.0	<1.0	<1.0
MW-5	<5.0 (1.0)	<5.0 (1.0)	<1.0
MW-6R	<1.0	<1.0	NS (1.0)
MW-7	<10 (5.3)	<10 (5.9)	6.4
MW-8	<1.0	<1.0	NS (1.0)
MW-9	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<1.0
MW-11	<1.0	<1.0	<1.0
MW-12	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	3.3	8.2	<1.0
MW-15	<1.0	<1.0	<1.0
MW-16	<1.0	<1.0	<1.0
MW-17	<1.0	<1.0	<1.0
MW-18	NA	NA	1.4

Notes:




All concentrations in µg/l

NA: Well not installed or abandoned.

<5.00: Analyte not detected. Detection limit used.

<100 (21.0): Analyte not detected. Elevated detection limit, interpolated or extrapolated value shown.

NS (21.0): Well not sampled, interpolated or extrapolated value shown - refer to shading for more specific explanation.

-  Interpolated between two sampling events.
-  Well not installed. Extrapolated from a sampling event.
-  Non-Sampled Well

Ethylbenzene Upper Shallow Input Data

	Sep. 1999	Mar. 2000	Mar. 2001	Sep. 2001	Mar. 2002	Sep. 2002	Mar. 2003	Sep. 2003	Mar. 2004	Sep. 2004
MW-1	1,950	1,890	1,050	854	635	1,900	938	441	1,910	680
MW-2	<2.0	<2.0	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-3	250	21	NS (14)	10	386	900	669	13	1.3	<2.0
MW-4	<2.0	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-5	NA	<2.0	NS (2.0)	<2.0	25	1.6	<2.0	<2.0	<2.0	<2.0
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	NA	NA	1,020	1,010	1,580	1,900	356	NS (1,278)	2,190	2,140
MW-8	NA	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0
MW-9	NA	NA	NA	NA	<2.0	<2.0	NS (2.0)	<2.0	<2.0	<2.0
MW-10	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-11	NA	NA	NA	NA	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0
MW-12	NA	NA	NA	NA	<2.0	2	1.5	<2.0	<2.0	<2.0
MW-13	NA	NA	NA	NA	NA	NA	NA	<2.0	2.2	NS (1.9)
MW-14	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0	NS (1.7)
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Ethylbenzene Upper Shallow Input Data

	Mar. 2005	Sep. 2005	Mar. 2006	Sep. 2006	Mar. 2007	Sep. 2007	Mar. 2008	Sep. 2008	Mar. 2009	Sep. 2009
MW-1	820	1,380	520	922	159	13	460	94	270	550
MW-2	<5.0 (1.7)	<5.0 (1.3)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-3	4	4.9	<1.0	13	339	820	580	1,200	1,300	920
MW-4	<5.0 (1.3)	0.66	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-5	1.5	3	<1.0	<1.0	<10 (1.0)	<20 (1.0)	<10 (1.0)	<1.0	<10 (1.0)	<10 (1.0)
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	1,110	1,350	1,020	625	1,240	1,900	340	810	200	750
MW-8	9.1	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	1.9	<1.0	<1.0	<1.0	<1.0	<1.0
MW-10	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	3.2	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	<5.0 (1.7)	<5.0 (1.3)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-12	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	<5.0 (1.6)	<5.0 (1.3)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	<5.0 (1.5)	<5.0 (1.2)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Ethylbenzene Upper Shallow Input Data

	Mar. 2010	Sep. 2010	Sep. 2012	Sep. 2014	Feb. 2017	Oct. 2017	Mar. 2018	Oct. 2018	Mar. 2019	Oct. 2019
MW-1	450	45	<100 (39)	33	81	10	<5.0	33	32	39
MW-2	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	0.46	<1.0	<1.0	<1.0	<1.0
MW-3	1,100	920	<2,500 (558)	196	130	90	330	530	310	490
MW-4	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-5	<1.0	<1.0	<25 (1.0)	NS (1.0)	<5.0 (1.0)	<10 (1.0)	<5.0 (1.0)	<1.0	<5.0	17
MW-6R	NA	NA	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7	1,300	210	431	104	84	130	100	200	79	37
MW-8	<1.0	<1.0	<5.0 (1.0)	<1.0	NS (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0
MW-9	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	NS (1.0)	NS (1.0)	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS (1.0)
MW-12	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	NS (1.0)	NS (1.0)	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-15	NA	NA	<5.0 (1.0)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-16	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Ethylbenzene Upper Shallow Input Data

	Apr. 2020	Jun. 2021	Apr. 2022
MW-1	24	97	100
MW-2	<1.0	<1.0	<1.0
MW-3	820	520	330
MW-4	<1.0	<1.0	<1.0
MW-5	<5.0	2.7	<1.0
MW-6R	<1.0	<1.0	NS (1.0)
MW-7	47	7.4	240
MW-8	<1.0	<1.0	NS (1.0)
MW-9	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<1.0
MW-11	<1.0	<1.0	<1.0
MW-12	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	<1.0	<1.0	<1.0
MW-15	<1.0	<1.0	<1.0
MW-16	<1.0	<1.0	<1.0
MW-17	<1.0	<1.0	<1.0
MW-18	NA	NA	<1.0

Notes:




All concentrations in µg/l

NA: Well not installed or abandoned.

<5.00: Analyte not detected. Detection limit used.

<100 (21.0): Analyte not detected. Elevated detection limit, interpolated or extrapolated value shown.

NS (21.0): Well not sampled, interpolated or extrapolated value shown - refer to shading for more specific explanation.

-  Interpolated between two sampling events.
-  Well not installed. Extrapolated from a sampling event.
-  Non-Sampled Well

Xylenes Upper Shallow Input Data

	Sep. 1999	Mar. 2000	Mar. 2001	Sep. 2001	Mar. 2002	Sep. 2002	Mar. 2003	Sep. 2003	Mar. 2004	Sep. 2004
MW-1	8,260	7,820	4,260	2,720	2,680	9,870	4,040	2,193	9,220	3,220
MW-2	<2.0	<2.0	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-3	1,480	69	NS (64)	62	1,530	3,828	2,912	60	8.4	2
MW-4	<2.0	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-5	NA	<2.0	NS (2.0)	<2.0	145	3.3	<2.0	<2.0	3.5	<2.0
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	NA	NA	3,430	3,016	8,000	10,950	1,606	NS (5,710)	9,770	9,000
MW-8	NA	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0
MW-9	NA	NA	NA	NA	<2.0	<2.0	NS (2.0)	<2.0	<2.0	<2.0
MW-10	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-11	NA	NA	NA	NA	<2.0	NS (2.0)	NS (2.0)	<2.0	<2.0	<2.0
MW-12	NA	NA	NA	NA	<2.0	<2.0	<2.0	1.9	<2.0	<2.0
MW-13	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0	NS (1.7)
MW-14	NA	NA	NA	NA	NA	NA	NA	<2.0	<2.0	NS (1.7)
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Xylenes Upper Shallow Input Data

	Mar. 2005	Sep. 2005	Mar. 2006	Sep. 2006	Mar. 2007	Sep. 2007	Mar. 2008	Sep. 2008	Mar. 2009	Sep. 2009
MW-1	3,940	6,580	2,430	3,910	736	5.2	1,900	460	1,000	2,300
MW-2	<5.0 (1.7)	<5.0 (1.3)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-3	43	43	16	72	1,400	3,300	2,300	4,500	4,800	3,600
MW-4	<5.0 (2.2)	2.5	<1.0	<1.0	3.3	<1.0	<1.0	<1.0	<1.0	<1.0
MW-5	6.4	13	<1.0	1.5	<10 (1.3)	<20 (1.2)	<10 (1.1)	<1.0	<10 (1.0)	<10 (1.0)
MW-6R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	4,170	5,440	4,040	2,350	4,650	7,300	1,500	3,400	790	3,300
MW-8	33	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.9	<1.0	<1.0
MW-9	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	7.6	<1.0	<1.0	<1.0	<1.0	<1.0
MW-10	<5.0 (1.2)	0.39	<1.0	<1.0	12	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	<5.0 (1.2)	0.36	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-12	<5.0 (1.7)	<5.0 (1.3)	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	<5.0 (1.5)	<5.0 (1.2)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	<5.0 (1.5)	<5.0 (1.2)	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	<1.0
MW-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Xylenes Upper Shallow Input Data

	Mar. 2010	Sep. 2010	Sep. 2012	Sep. 2014	Feb. 2017	Oct. 2017	Mar. 2018	Oct. 2018	Mar. 2019	Oct. 2019
MW-1	1,900	160	403	99	380	53	12	140	200	97
MW-2	<1.0	<1.0	<15 (1.5)	<2.0	<1.0	1.4	<1.0	<1.0	<1.0	<1.0
MW-3	4,600	3,600	<7,500 (2,208)	817	530	320	1,300	2,100	1,200	2,000
MW-4	<1.0	<1.0	<15 (1.5)	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-5	<1.0	<1.0	<75 (1.0)	NS (1.0)	<5.0 (1.0)	<10 (1.0)	<5.0 (1.0)	<1.0	<5.0 (1.8)	2.9
MW-6R	NA	NA	<15 (2.0)	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7	5,700	870	1,720	373	320	420	310	960	210	140
MW-8	<1.0	<1.0	<15 (1.5)	<2.0	NS (1.2)	<1.0	<1.1	<1.1	<1.0	<1.0
MW-9	<1.0	<1.0	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<15 (1.5)	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	NS (1.1)	NS (1.2)	<15 (1.6)	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	NS (1.0)
MW-12	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	NS (1.1)	NS (1.2)	<15 (1.6)	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-15	NA	NA	<15 (2.0)	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-16	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0
MW-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
MW-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Xylenes Upper Shallow Input Data

	Apr. 2020	Jun. 2021	Apr. 2022
MW-1	110	400	570
MW-2	<1.0	<1.0	<1.0
MW-3	3,300	2,300	1,300
MW-4	<1.0	<1.0	<1.0
MW-5	<5.0 (2.5)	<5.0 (1.6)	<1.0
MW-6R	<1.0	<1.0	NS (1.0)
MW-7	140	24	660
MW-8	<1.0	<1.0	NS (1.0)
MW-9	NS (1.0)	NS (1.0)	NS (1.0)
MW-10	<1.0	<1.0	<1.0
MW-11	<1.0	<1.0	<1.0
MW-12	NS (1.0)	NS (1.0)	NS (1.0)
MW-13	NS (1.0)	NS (1.0)	NS (1.0)
MW-14	<1.0	<1.0	<1.0
MW-15	<1.0	<1.0	<1.0
MW-16	<1.0	<1.0	<1.0
MW-17	<1.0	<1.0	<1.0
MW-18	NA	NA	8.8

Notes:




All concentrations in µg/l

NA: Well not installed or abandoned.

<5.00: Analyte not detected. Detection limit used.

<100 (21.0): Analyte not detected. Elevated detection limit, interpolated or extrapolated value shown.

NS (21.0): Well not sampled, interpolated or extrapolated value shown - refer to shading for more specific explanation.

-  Interpolated between two sampling events.
-  Well not installed. Extrapolated from a sampling event.
-  Non-Sampled Well

Ricker Method® Plume Stability Analysis Metrics Summary

Ricker Method® Plume Stability Characteristics			
PCE Upper Shallow			
Event	Area (acres)	Average Concentration (µg/L)	Mass Indicator (lbs)
Sep-1999	17.1	264	36.8
Mar-2000	11.6	77.8	7.4
Mar-2001	18.9	215	33.2
Sep-2001	19.7	67.9	10.9
Mar-2002	19.5	134	21.4
Sep-2002	19.2	142	22.3
Mar-2003	19.4	117	18.4
Sep-2003	17.7	75.0	10.8
Mar-2004	17.9	135	19.7
Sep-2004	17.4	142	20.1
Mar-2005	17.9	151	22.1
Sep-2005	15.9	114	14.7
Mar-2006	14.4	56.2	6.6
Sep-2006	14.1	56.0	6.5
Mar-2007	15.4	55.5	7.0
Sep-2007	13.2	25.3	2.7
Mar-2008	14.5	54.2	6.4
Sep-2008	8.7	80.4	5.7
Mar-2009	8.2	126.1	8.5
Sep-2009	7.9	44.0	2.9
Mar-2010	6.8	41.5	2.3
Sep-2010	7.6	49.7	3.1
Sep-2012	11.3	28.5	2.6
Sep-2014	6.2	14.6	0.7
Feb-2017	6.9	16.6	0.9
Oct-2017	6.8	15.7	0.9
Mar-2018	7.3	14.2	0.8
Oct-2018	7.2	16.7	1.0
Mar-2019	7.5	16.7	1.0
Oct-2019	4.6	7.8	0.3
Apr-2020	7.5	15.6	1.0
Jun-2021	7.9	16.5	1.1
Apr-2022	9.7	39.7	3.2

Ricker Method® Plume Stability Characteristics			
TCE Upper Shallow			
Event	Area (acres)	Average Concentration (µg/L)	Mass Indicator (lbs)
Sep-1999	15.8	26.6	3.4
Mar-2000	14.1	73.1	8.4
Mar-2001	17.6	153	22.0
Sep-2001	17.9	59.8	8.7
Mar-2002	17.7	317	45.8
Sep-2002	17.5	298	42.5
Mar-2003	17.5	315	44.8
Sep-2003	17.2	68.9	9.7
Mar-2004	16.5	109	14.7
Sep-2004	16.3	118	15.8
Mar-2005	17.3	121	17.0
Sep-2005	16.5	141	19.0
Mar-2006	14.6	77.2	9.2
Sep-2006	14.6	56.8	6.8
Mar-2007	16.4	169	22.7
Sep-2007	13.3	199	21.6
Mar-2008	14.9	124	15.0
Sep-2008	10.6	205	17.7
Mar-2009	9.5	325	25.2
Sep-2009	9.3	120	9.1
Mar-2010	7.6	96.4	6.0
Sep-2010	8.3	134	9.2
Sep-2012	12.8	70.2	7.3
Sep-2014	10.7	22.0	1.9
Feb-2017	10.7	18.9	1.7
Oct-2017	11.2	21.2	1.9
Mar-2018	11.5	23.4	2.2
Oct-2018	11.6	22.5	2.1
Mar-2019	11.7	24.0	2.3
Oct-2019	11.7	19.9	1.9
Apr-2020	11.5	20.3	1.9
Jun-2021	11.5	23.8	2.2
Apr-2022	12.0	59.0	5.8

Ricker Method® Plume Stability Characteristics cis-1,2-DCE Upper Shallow			
Event	Area (acres)	Average Concentration (µg/L)	Mass Indicator (lbs)
Sep-1999	16.4	1,144	153
Mar-2000	14.5	1,416	167
Mar-2001	17.3	1,448	204
Sep-2001	17.7	1,518	219
Mar-2002	17.9	1,616	235
Sep-2002	17.6	2,881	413
Mar-2003	17.4	2,566	364
Sep-2003	17.4	1,206	171
Mar-2004	17.3	1,441	203
Sep-2004	17.3	1,212	171
Mar-2005	17.2	1,293	181
Sep-2005	16.8	2,166	297
Mar-2006	16.4	1,390	186
Sep-2006	16.5	1,441	194
Mar-2007	17.7	2,447	354
Sep-2007	16.6	3,104	421
Mar-2008	16.4	3,087	412
Sep-2008	16.8	4,709	646
Mar-2009	16.4	3,488	467
Sep-2009	16.8	4,330	594
Mar-2010	16.4	4,161	556
Sep-2010	16.5	3,022	407
Sep-2012	16.3	1,526	203
Sep-2014	16.2	574	76
Feb-2017	15.9	662	86
Oct-2017	16.0	371	48
Mar-2018	15.8	408	53
Oct-2018	15.9	580	75
Mar-2019	15.8	475	61
Oct-2019	16.2	620	82
Apr-2020	15.8	626	81
Jun-2021	15.9	661	85.6
Apr-2022	15.7	477	61.1

Ricker Method® Plume Stability Characteristics trans-1,2-DCE Upper Shallow			
Event	Area (acres)	Average Concentration (µg/L)	Mass Indicator (lbs)
Sep-1999	12.8	16.8	1.8
Mar-2000	14.4	53.9	6.3
Mar-2001	13.6	21.5	2.4
Sep-2001	9.4	16.8	1.3
Mar-2002	15.5	29.9	3.8
Sep-2002	15.7	54.9	7.0
Mar-2003	15.7	43.1	5.5
Sep-2003	15.1	23.8	2.9
Mar-2004	14.5	35.9	4.2
Sep-2004	14.6	25.6	3.1
Mar-2005	14.4	22.4	2.6
Sep-2005	13.8	25.5	2.9
Mar-2006	8.9	10.8	0.8
Sep-2006	13.0	18.6	2.0
Mar-2007	13.0	30.2	3.2
Sep-2007	12.7	34.0	3.5
Mar-2008	12.9	33.2	3.5
Sep-2008	10.3	36.3	3.1
Mar-2009	12.3	46.2	4.6
Sep-2009	12.5	45.0	4.6
Mar-2010	12.0	38.8	3.8
Sep-2010	11.1	39.0	3.5
Sep-2012	10.1	24.1	2.0
Sep-2014	9.7	20.3	1.6
Feb-2017	10.2	14.9	1.2
Oct-2017	8.3	11.1	0.7
Mar-2018	5.4	17.9	0.8
Oct-2018	7.0	21.2	1.2
Mar-2019	6.5	14.4	0.8
Oct-2019	8.0	19.9	1.3
Apr-2020	7.5	20.8	1.3
Jun-2021	7.8	18.9	1.2
Apr-2022	6.1	14.5	0.7

Ricker Method® Plume Stability Characteristics 1,1-DCE Upper Shallow			
Event	Area (acres)	Average Concentration (µg/L)	Mass Indicator (lbs)
Sep-1999	11.9	17.2	1.7
Mar-2000	12.6	50.9	5.2
Mar-2001	11.2	33.5	3.1
Sep-2001	9.0	30.6	2.2
Mar-2002	11.9	104	10.1
Sep-2002	12.7	175	18.2
Mar-2003	11.2	188	17.1
Sep-2003	7.1	32.6	1.9
Mar-2004	11.3	62.3	5.7
Sep-2004	11.2	43.0	3.9
Mar-2005	12.9	31.9	3.3
Sep-2005	14.0	32.1	3.7
Mar-2006	5.7	35.9	1.7
Sep-2006	10.9	33.0	2.9
Mar-2007	11.1	96.8	8.8
Sep-2007	10.2	174	14.4
Mar-2008	9.0	145	10.6
Sep-2008	7.4	231	14.0
Mar-2009	9.2	255	19.2
Sep-2009	9.1	186	13.8
Mar-2010	8.6	180	12.6
Sep-2010	7.6	175	10.9
Sep-2012	8.9	85.1	6.2
Sep-2014	6.7	48.5	2.7
Feb-2017	7.6	37.7	2.3
Oct-2017	6.5	27.6	1.5
Mar-2018	7.4	39.2	2.4
Oct-2018	6.2	49.9	2.5
Mar-2019	6.8	35.4	2.0
Oct-2019	7.1	45.1	2.6
Apr-2020	7.2	49.4	2.9
Jun-2021	6.1	44.5	2.2
Apr-2022	6.4	33.5	1.7

Ricker Method® Plume Stability Characteristics Vinyl Chloride Upper Shallow			
Event	Area (acres)	Average Concentration (µg/L)	Mass Indicator (lbs)
Sep-1999	15.1	20.4	2.5
Mar-2000	12.1	30.0	3.0
Mar-2001	15.9	44.0	5.7
Sep-2001	13.7	15.0	1.7
Mar-2002	16.0	110	14.5
Sep-2002	16.1	115	15.1
Mar-2003	14.3	142	16.6
Sep-2003	14.3	24.3	2.8
Mar-2004	15.4	61.9	7.8
Sep-2004	15.3	39.9	5.0
Mar-2005	15.3	32.5	4.1
Sep-2005	15.3	30.9	3.9
Mar-2006	15.3	39.0	4.9
Sep-2006	15.6	52.0	6.6
Mar-2007	15.7	91.8	11.8
Sep-2007	16.8	130	17.9
Mar-2008	16.6	128	17.4
Sep-2008	17.1	163	22.9
Mar-2009	15.6	166	21.1
Sep-2009	17.6	170	24.4
Mar-2010	15.6	195	24.8
Sep-2010	16.9	171	23.5
Sep-2012	16.2	65.1	8.6
Sep-2014	15.9	41.4	5.4
Feb-2017	15.2	43.9	5.5
Oct-2017	15.0	33.1	4.0
Mar-2018	13.7	35.5	4.0
Oct-2018	14.9	58.3	7.1
Mar-2019	14.1	34.0	3.9
Oct-2019	15.3	50.9	6.4
Apr-2020	14.6	45.6	5.4
Jun-2021	15.4	45.9	5.8
Apr-2022	14.1	48.7	5.6

Ricker Method® Plume Stability Characteristics			
Total Chloroethenes Upper Shallow			
Event	Area (acres)	Average Concentration (nmol/L)	Mass Indicator (moles)
Sep-1999	17.4	13,471	869
Mar-2000	19.1	12,911	913
Mar-2001	18.9	17,124	1,197
Sep-2001	20.2	14,951	1,120
Mar-2002	19.5	20,777	1,497
Sep-2002	19.5	33,074	2,381
Mar-2003	19.4	30,004	2,149
Sep-2003	18.1	13,642	914
Mar-2004	18.4	17,065	1,164
Sep-2004	18.2	14,624	986
Mar-2005	17.8	15,610	1,030
Sep-2005	17.1	24,674	1,563
Mar-2006	16.4	16,049	974
Sep-2006	16.5	16,820	1,025
Mar-2007	17.7	29,037	1,906
Sep-2007	16.8	36,588	2,279
Mar-2008	16.6	35,875	2,202
Sep-2008	17.2	52,746	3,366
Mar-2009	16.4	42,373	2,571
Sep-2009	17.6	47,496	3,099
Mar-2010	16.4	47,843	2,902
Sep-2010	16.9	35,108	2,192
Sep-2012	16.4	17,862	1,086
Sep-2014	16.4	6,995	425
Feb-2017	16.4	7,696	468
Oct-2017	16.3	4,573	276
Mar-2018	16.0	5,056	300
Oct-2018	16.1	7,237	432
Mar-2019	16.2	5,672	339
Oct-2019	16.5	7,482	456
Apr-2020	16.1	7,511	446
Jun-2021	16.2	7,852	470.1
Apr-2022	16.1	6,161	367.6

Ricker Method® Plume Stability Characteristics 1,1,2-TCA Upper Shallow			
Event	Area (acres)	Average Concentration (µg/L)	Mass Indicator (lbs)
Sep-1999	5.6	8.3	0.4
Mar-2000	0.0	5.0	0.0
Mar-2001	7.1	14.1	0.8
Sep-2001	7.6	17.6	1.1
Mar-2002	9.2	71.8	5.4
Sep-2002	11.7	32.6	3.1
Mar-2003	9.3	131.2	9.9
Sep-2003	7.4	21.2	1.3
Mar-2004	7.9	25.4	1.6
Sep-2004	0.0	5.0	0.0
Mar-2005	7.3	19.3	1.1
Sep-2005	0.0	<5	0.0
Mar-2006	5.6	17.6	0.8
Sep-2006	4.2	8.9	0.3
Mar-2007	7.5	51.6	3.2
Sep-2007	8.0	108.9	7.1
Mar-2008	7.6	74.3	4.6
Sep-2008	8.1	222.9	14.8
Mar-2009	8.7	268.2	18.9
Sep-2009	8.4	250.9	17.2
Mar-2010	8.1	217.8	14.4
Sep-2010	8.0	196.7	12.9
Sep-2012	7.6	116.0	7.2
Sep-2014	5.0	15.2	0.6
Feb-2017	5.1	15.1	0.6
Oct-2017	3.7	14.0	0.4
Mar-2018	3.8	14.0	0.4
Oct-2018	3.3	14.3	0.4
Mar-2019	3.3	14.3	0.4
Oct-2019	3.3	14.3	0.4
Apr-2020	3.2	14.3	0.4
Jun-2021	3.2	14.3	0.4
Apr-2022	4.9	14.9	0.6

Ricker Method® Plume Stability Characteristics 1,1,1-TCA Upper Shallow			
Event	Area (acres)	Average Concentration (µg/L)	Mass Indicator (lbs)
Sep-1999	5.6	8.3	0.4
Mar-2000	8.6	47.7	3.3
Mar-2001	7.9	24.0	1.5
Sep-2001	0.0	5.0	0.0
Mar-2002	9.3	135.1	10.2
Sep-2002	9.6	51.1	4.0
Mar-2003	9.6	275.8	21.7
Sep-2003	7.9	25.6	1.6
Mar-2004	8.4	41.8	2.9
Sep-2004	0.0	<5	0.0
Mar-2005	7.1	20.9	1.2
Sep-2005	0.0	<5	0.0
Mar-2006	5.2	14.1	0.6
Sep-2006	4.4	10.1	0.4
Mar-2007	7.5	77.7	4.7
Sep-2007	8.1	191.4	12.6
Mar-2008	7.9	140.5	9.0
Sep-2008	8.1	207.3	13.7
Mar-2009	8.7	277.8	19.6
Sep-2009	8.2	178.8	12.0
Mar-2010	8.0	180.4	11.8
Sep-2010	7.7	122.2	7.7
Sep-2012	6.7	47.6	2.6
Sep-2014	2.3	8.1	0.1
Feb-2017	2.2	8.1	0.1
Oct-2017	1.5	8.0	0.1
Mar-2018	1.5	8.0	0.1
Oct-2018	1.5	8.0	0.1
Mar-2019	1.5	8.0	0.1
Oct-2019	1.5	8.0	0.1
Apr-2020	1.5	8.0	0.1
Jun-2021	1.5	8.0	0.1
Apr-2022	1.3	8.0	0.1

Ricker Method® Plume Stability Characteristics 1,2-DCA Upper Shallow			
Event	Area (acres)	Average Concentration (µg/L)	Mass Indicator (lbs)
Sep-1999	2.7	5.77	0.1
Mar-2000	0.0	<5	0.0
Mar-2001	1.6	5.89	0.1
Sep-2001	3.0	6.59	0.2
Mar-2002	7.6	14.55	0.9
Sep-2002	5.8	9.67	0.5
Mar-2003	6.6	16.62	0.9
Sep-2003	4.8	7.84	0.3
Mar-2004	0.2	5.22	0.01
Sep-2004	0.0	<5	0.0
Mar-2005	0.8	5.7	0.0
Sep-2005	0.0	<5	0.0
Mar-2006	2.2	6.74	0.1
Sep-2006	2.3	6.83	0.1
Mar-2007	4.6	10.96	0.4
Sep-2007	4.7	11.13	0.4
Mar-2008	4.7	11.29	0.4
Sep-2008	0.0	<5	0.0
Mar-2009	0.0	<5	0.0
Sep-2009	0.0	<5	0.0
Mar-2010	0.0	<5	0.0
Sep-2010	0.0	<5	0.0
Sep-2012	1.5	7.17	0.1
Sep-2014	2.8	9.13	0.2
Feb-2017	4.2	10.55	0.4
Oct-2017	2.4	10.68	0.2
Mar-2018	2.7	11.74	0.3
Oct-2018	3.0	13.08	0.3
Mar-2019	3.5	13.72	0.4
Oct-2019	4.1	14.59	0.5
Apr-2020	4.0	14.71	0.5
Jun-2021	3.7	14.97	0.4
Apr-2022	3.1	15.20	0.4

Ricker Method® Plume Stability Characteristics 1,1-DCA Upper Shallow			
Event	Area (acres)	Average Concentration (µg/L)	Mass Indicator (lbs)
Sep-1999	8.4	23.2	1.6
Mar-2000	10.6	48.9	4.2
Mar-2001	10.0	32.9	2.7
Sep-2001	9.2	23.0	1.7
Mar-2002	9.3	144	10.9
Sep-2002	9.3	205	15.6
Mar-2003	9.3	206	15.6
Sep-2003	7.8	33.0	2.1
Mar-2004	12.1	68.0	6.7
Sep-2004	0.0	<5	0.0
Mar-2005	8.4	31.4	2.1
Sep-2005	0.0	5.0	0.0
Mar-2006	6.9	46.1	2.6
Sep-2006	7.9	33.9	2.2
Mar-2007	10.7	98.0	8.5
Sep-2007	10.2	164	13.6
Mar-2008	9.2	138	10.4
Sep-2008	8.2	258	17.3
Mar-2009	9.4	252	19.3
Sep-2009	9.7	240	19.0
Mar-2010	9.9	225	18.2
Sep-2010	8.2	258	17.3
Sep-2012	8.0	148	9.7
Sep-2014	7.6	54.1	3.3
Feb-2017	7.9	52.5	3.4
Oct-2017	7.1	33.6	2.0
Mar-2018	7.8	45.4	2.9
Oct-2018	7.7	59.4	3.7
Mar-2019	7.1	45.4	2.6
Oct-2019	8.1	52.0	3.4
Apr-2020	6.6	65.4	3.5
Jun-2021	7.3	55.0	3.3
Apr-2022	5.2	46	1.9

Ricker Method® Plume Stability Characteristics			
Total Chloroethanes Upper Shallow			
Event	Area (acres)	Average Concentration (nmol/L)	Mass Indicator (moles)
Sep-1999	8.37	339	11
Mar-2000	10.53	794	31
Mar-2001	9.91	565	21
Sep-2001	9.12	368	12
Mar-2002	9.85	2,968	108
Sep-2002	11.82	2,248	98
Mar-2003	9.59	5,193	184
Sep-2003	7.92	722	21
Mar-2004	12.03	1,043	46
Sep-2004	0.00	<5	0
Mar-2005	8.37	586	18
Sep-2005	0.00	<5	0
Mar-2006	6.90	683	17
Sep-2006	7.85	446	13
Mar-2007	10.62	1,738	68
Sep-2007	10.14	3,526	132
Mar-2008	9.16	2,846	96
Sep-2008	8.15	5,870	177
Mar-2009	9.35	6,397	221
Sep-2009	9.69	5,250	188
Mar-2010	9.84	4,765	173
Sep-2010	8.15	4,987	150
Sep-2012	7.96	2,664	78
Sep-2014	7.49	682	19
Feb-2017	7.83	686	20
Oct-2017	7.06	449	12
Mar-2018	7.76	569	16
Oct-2018	7.63	718	20
Mar-2019	7.04	597	16
Oct-2019	8.03	662	20
Apr-2020	6.55	826	20
Jun-2021	7.2	700	18.7
Apr-2022	6.2	569	13.0

Ricker Method® Plume Stability Characteristics Toluene Upper Shallow			
Event	Area (acres)	Average Concentration (µg/L)	Mass Indicator (lbs)
Sep-1999	10.6	98.5	8.5
Mar-2000	11.3	91.0	8.4
Mar-2001	9.9	41.1	3.3
Sep-2001	9.3	70.3	5.3
Mar-2002	13.1	49.7	5.3
Sep-2002	13.5	68.7	7.6
Mar-2003	13.4	56.6	6.2
Sep-2003	6.9	10.9	0.6
Mar-2004	7.8	46.9	3.0
Sep-2004	7.3	31.9	1.9
Mar-2005	6.1	24.7	1.2
Sep-2005	5.5	37.5	1.7
Mar-2006	2.7	14.2	0.3
Sep-2006	6.5	20.7	1.1
Mar-2007	9.9	22.0	1.8
Sep-2007	9.3	35.1	2.7
Mar-2008	10.6	38.0	3.3
Sep-2008	10.5	56.8	4.9
Mar-2009	10.2	61.5	5.1
Sep-2009	10.9	61.0	5.4
Mar-2010	10.4	54.8	4.6
Sep-2010	8.5	44.7	3.1
Sep-2012	7.5	21.9	1.3
Sep-2014	6.9	13.1	0.7
Feb-2017	8.0	15.2	1.0
Oct-2017	5.2	13.6	0.6
Mar-2018	5.4	14.1	0.6
Oct-2018	5.3	13.7	0.6
Mar-2019	5.3	13.3	0.6
Oct-2019	5.8	16.2	0.8
Apr-2020	6.2	19.2	1.0
Jun-2021	6.2	17.7	0.9
Apr-2022	5.5	14.3	0.6

Ricker Method® Plume Stability Characteristics Ethylbenzene Upper Shallow			
Event	Area (acres)	Average Concentration (µg/L)	Mass Indicator (lbs)
Sep-1999	15.4	224	28.1
Mar-2000	13.2	143	15.4
Mar-2001	12.4	125	12.7
Sep-2001	11.7	117	11.2
Mar-2002	16.0	163	21.2
Sep-2002	13.9	280	31.7
Mar-2003	13.9	160	18.1
Sep-2003	12.0	64.1	6.3
Mar-2004	7.7	160	10.0
Sep-2004	7.6	105	6.5
Mar-2005	8.8	83.6	6.0
Sep-2005	9.6	110	8.6
Mar-2006	5.9	79.8	3.8
Sep-2006	9.8	76.4	6.1
Mar-2007	11.2	112	10.2
Sep-2007	10.5	122	10.4
Mar-2008	11.6	141	13.3
Sep-2008	11.3	171	15.7
Mar-2009	11.6	181	17.1
Sep-2009	11.7	204	19.5
Mar-2010	11.7	230	22.0
Sep-2010	11.0	116	10.4
Sep-2012	10.4	44.4	3.8
Sep-2014	9.7	24.2	1.9
Feb-2017	9.9	23.6	1.9
Oct-2017	7.0	14.8	0.8
Mar-2018	7.4	23.4	1.4
Oct-2018	9.0	35.1	2.6
Mar-2019	10.3	26.9	2.3
Oct-2019	11.8	35.7	3.4
Apr-2020	10.4	40.5	3.4
Jun-2021	9.9	38.3	3.1
Apr-2022	8.8	34.8	2.5

Ricker Method® Plume Stability Characteristics			
Xylene Upper Shallow			
Event	Area (acres)	Average Concentration (µg/L)	Mass Indicator (lbs)
Sep-1999	15.8	833	107.2
Mar-2000	14.0	449	51.1
Mar-2001	13.9	373	42.1
Sep-2001	13.8	296	33.3
Mar-2002	16.9	623	85.7
Sep-2002	14.7	1,102	132.1
Mar-2003	14.2	540	62.8
Sep-2003	13.7	215	24.0
Mar-2004	11.5	470	44.1
Sep-2004	8.4	329	22.4
Mar-2005	14.5	240	28.4
Sep-2005	14.8	342	41.2
Mar-2006	10.4	204	17.3
Sep-2006	11.8	245	23.7
Mar-2007	12.5	390	39.9
Sep-2007	10.5	310	26.6
Mar-2008	12.2	466	46.2
Sep-2008	12.0	529	52.0
Mar-2009	12.1	547	53.8
Sep-2009	12.2	676	67.1
Mar-2010	12.2	791	78.5
Sep-2010	11.6	353	33.5
Sep-2012	12.0	146	14.3
Sep-2014	11.6	64.0	6.1
Feb-2017	11.2	62.3	5.7
Oct-2017	9.1	33.0	2.4
Mar-2018	9.0	51.1	3.7
Oct-2018	10.2	90.4	7.5
Mar-2019	10.5	67.7	5.8
Oct-2019	10.7	78.3	6.8
Apr-2020	10.8	104	9.1
Jun-2021	10.6	98.7	8.5
Apr-2022	10.9	99.5	8.8

Appendix H

Groundwater Plume Analytics® Presentation.pptx