DEPARTMENT OF THE AIR FORCE
AIR FORCE CIVIL ENGINEER CENTER
INSTALLATION RESTORATION PROGRAM
NIAGARA FALLS AIR RESERVE STATION

AFCEC/CZOE
2405 Franklin Drive
Niagara Falls, NY 14304-5063

March 20, 2024

MEMO TO: Distribution

Re: Transmittal of Final 2022 Annual Comprehensive Sampling/Monitoring Report, Niagara Falls Air Reserve Station, New York

Seres-Arcadis SB JV, LLC is pleased to present our Final 2021 Annual Comprehensive Sampling/ Monitoring Report for Niagara Falls ARS, New York, Northeast Group ORC.

Sincerely,

MAIRS.LINDSAY.LEE.1589783227 Digitally signed by MAIRS.LINDSAY.LEE.1589783227 Date: 2024.03.19 12:27:34 -04'00'

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Final 2022 Annual Comprehensive Sampling/ Monitoring Report

Installation-Wide Groundwater Monitoring Program

Niagara Falls Air Reserve Station, New York

Northeast Group Optimized Remediation Contract
Contract W912DR-19-D-0009
Task Order W912DR-20-F-0483

March 2024

Final 2022 Annual Comprehensive Sampling/ Monitoring Report

Installation-Wide Groundwater Monitoring Program
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Contract W912DR-19-D-0009
Task Order W912DR-20-F-0483

March 2024

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Acronyms and Abbreviations

µg/L	Micrograms per liter
AFCEC	Air Force Civil Engineer Center
amsl	Above mean sea level
ALS	ALS Environmental Laboratory
BOMARC	Boeing Michigan Aeronautical Research Center
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CMI	Corrective Measure Implementation
COC	Contaminant of concern
CVOC	Chlorinated volatile organic compound
DCE	Dichloroethene
DoD	Department of Defense
EA	EA Engineering, P.C., and Its Affiliate EA Science and Technology
E&E	Ecology & Environment, Inc.
EPA	U.S. Environmental Protection Agency
ERD	Enhanced reductive dechlorination
EZVI	Emulsified vegetable oil and zero valent iron mixture
GPS	Groundwater protection standard
GWTS	Groundwater treatment system
HRC	Hydrogen release compound
IRP	Installation Restoration Program
IWGP	Installation-Wide Groundwater Monitoring Program
MS	Matrix spike
MSD	Matrix spike duplicate
MW	Monitoring well
NFARS	Niagara Falls Air Reserve Station
NYSDEC	New York State Department of Environmental Conservation
ORC	Optimized Remediation Contract
PDB	Passive diffusion bag
POTW	Publicly owned treatment works

ppb	Parts per billion
PW	Pumping well
PZ	Piezometer
QA	Quality Assurance
QC	Quality control
RA	Remedial Action
RCRA	Resource Conservation and Recovery Act
RW	Recovery well
S-A JV	Seres-Arcadis Small Business Joint Venture LLC
SC	Site Closure
SMP	Site Management Plan
SWMU	Solid waste management unit
SW	Surface water
TCE	Trichloroethene
UST	Underground storage tank
VC	Vinyl chloride
VOC	Volatile organic compound

1 Introduction

The United States Department of the Air Force, Air Force Civil Engineer Center (AFCEC) and the United States Army Corps of Engineers has retained the SERES-Arcadis Small Business Joint Venture LLC (S-A JV) to perform installation-wide groundwater monitoring in support of the Northeast Group Optimized Remediation Contract (ORC) at the Niagara Falls Air Reserve Station (NFARS) in Niagara Falls, New York under Contract Number W912DR-19-D-0009, Task Order W912DR-20-F-0483. The work related to the installation-wide groundwater monitoring program (IWGP) is conducted under the United States Department of Defense (DoD) Installation Restoration Program (IRP) and in compliance with the requirements of a 2016 New York State Department of Environmental Conservation (NYSDEC) Order on Consent and Administrative Settlement (Site No. 932106, Index No. R9-20150902-65). This 2022 Annual Comprehensive Sampling/Monitoring Summary Report was prepared to provide IWGP monitoring results, data evaluation, and recommendations associated with the Spring and Fall 2022 sampling/monitoring events performed at NFARS.

1.1 Background

NFARS is located in Niagara County, New York, approximately 15 miles north of the City of Buffalo and 4 miles east of the City of Niagara Falls (Figure 1-1). The base covers approximately 631 acres in the towns of Wheatfield and Niagara, New York. The environmental setting for NFARS, including physiography, climate, land use, hydrology, and geology is described in previous reports provided in the Administrative Record, including: the Stratigraphy Assessment (Ecology & Environment, Inc. [E&E] 1999); the Focused Resource Conservation and Recovery Act Facility Investigation, and Interim Corrective Measures Study (E&E 2000); and the Site Management Plan (SMP) prepared by EA Science and Technology (EA 2021).

1.2 Installation Restoration Program

The DoD developed the IRP to ensure compliance with hazardous waste regulations, identify and evaluate environmental contamination, and associated public health hazards at DoD facilities resulting from past operations and waste handling/disposal. IRP studies at Air Force installations were initially developed and implemented in a four-phase program. That four-phase approach was later changed to a three-phase program to ensure consistency with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) response action process. Environmental studies conducted at NFARS have followed the three-phase approach outlined in the National Contingency Plan.

The objective of the IRP is to provide a methodical and logical approach to the identification, quantification, and development of feasible remedies for environmental problems including public health hazards caused by the use or disposal of hazardous material at United States Air Force installations. The Air Force's ultimate objective for IRP remediation sites is to achieve Unlimited Use/Unrestricted Exposure status leading to Site Closure (SC).

AFCEC is responsible for implementation of the IRP. As the host unit at NFARS, the 914th Air Refueling Wing Mission Support Group/Civil Engineering-Environmental is responsible for administering remediation under the IRP, including remediation of contamination resulting from tenant organization activities, specifically those of the New York Air National Guard.

1.2.1 IRP Site Status

As indicated in the SMP (EA 2021), 13 Solid Waste Management Units (SWMUs) are managed at the Site under the 2016 Consent Order. These 13 SWMUs include the following:

- Site 1 – Building 600 Jet Fuel No. 4 (JP-4) Pipeline Leak
- Site 2 – JP-4 Tank C
- Site 3 – Landfill
- Site 4 – BX MOGAS Tank Leak
- Site 5 – Former Boeing/Michigan Aeronautical Research Center Missile Site
- Site 6 – JP-4 Tank A
- Site 7– JP-4 Tank Truck Spill
- Site 8 – Former Building 202 Drum Storage Yard
- Site 9 – Fire Training Area No. 3
- Site 10 – Former Fire Training Area No. 1
- Site 11 – Fire Training Area No. 2
- Site 12 – Building 850 Drum Storage Yard
- Site 13 – 4,000-gallon Underground Storage Tank (UST)

Monitoring is not currently performed at Sites 1, 2, 4, 6 through 9, 11, and 12 under the IRP IWGP. Monitoring is currently performed at Sites 3, 5, 10, and 13 under the IRP IWGP and in accordance with the requirements of the Work Plan for the IWGP (Appendix D of the SMP). As noted in Section 1.2.2, a final sampling event will be performed at Site 8 to demonstrate achievement of the criteria for Site Closure.

1.2.2 Prior Remedial Actions

Prior to 2012, corrective actions were performed at certain IRP sites to prevent offsite migration of contaminants of concern (COCs). EA conducted Remedial Actions (RAs) consisting of in-situ injections to treat COCs in groundwater through enhanced reductive dechlorination (ERD) and in-situ chemical reduction at Sites 3, 5, 7, 8, 10 and 13 between August and September 2015 and Sites 5, 8, 10, and 13 in June 2018 (EA 2017 and EA 2020). Based on the overall improvement of groundwater quality at certain sites following the 2015 and 2018 RAs, the 2018 and 2019 Annual Comprehensive Sampling/Monitoring Reports (EA 2019 and EA 2020, respectively), both of which were approved by NYSDEC, presented several recommendations including the following:

- Site 7 was removed from the IWGP in June 2018 based on the achievement of alternate termination criteria specified in Section 5.1.2 of the SMP (EA 2021). Separately from the IWGP, an investigation to determine the potential presence of perfluorooctanoic acid and perfluorooctane sulfonic acid is currently being conducted at Site 7 separately under the CERCLA process.
- Site 8 was removed from the IWGP prior to the Fall 2020 sampling/monitoring event based on the achievement of alternate termination criteria at monitoring well MW8-1 or termination of groundwater monitoring criteria at monitoring well MW8-10D. However, NYSDEC subsequently indicated that an additional sampling event will be required at this Site prior to achieving Site Closure. The scope of that sampling event is currently under discussion with NYSDEC. Further, an investigation to determine the potential presence of

1,4-dioxane was conducted separately by the S-A JV at Site 8 in July 2022. As noted in the Draft 1,4-Dioxane Sampling Summary Memorandum (S-A JV 2023), 1,4-dioxane was detected in only one of three monitoring wells sampled at Site 8. Although 1,4-dioxane was detected at a concentration of 0.65 micrograms per liter (µg/L) in monitoring well MW8-4D, which is greater than the NYSDEC human health guidance value of 0.35 µg/L and the United States Environmental Protection Agency (EPA) risk-based regional screening level of 0.46 µg/L for tap water, that concentration is less than NYSDOH's maximum contaminant level of 1 µg/L for public drinking water. As a result, that document proposed no further investigation activities for 1,4-dioxane in groundwater at NFARS.

- The pumping wells at Sites 10 and 13 and the groundwater treatment system at Site10 will remain off.

Evaluations of the annual monitoring data and recommendations to modify the sampling network and/or sampling frequency (if any) based on those evaluations continue to be presented in the Annual Comprehensive Sampling/Monitoring Reports.

1.3 Installation-Wide Groundwater Program Monitoring

As indicated in Section 5 of the SMP (EA 2021), the wells and piezometers at Sites 3, 5, 10, and 13 are subject to monitoring for volatile organic compounds (VOCs) under the IWGP until approval is received from NYSDEC to cease monitoring based on the achievement of either of two sets of criteria (which are further described in this section): Termination of Groundwater Monitoring Criteria or Alternate Termination Criteria. To evaluate achievement of either set of criteria, the groundwater analytical results for detected compounds at each Site are compared to Groundwater Protection Standards (GPS) derived from NYSDEC Class GA Groundwater Standards, as set forth in New York Code of Rules and Regulations Part 703, Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations and Division of Water, Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values (NYSDEC 1998). Table 1-1 lists the COCs which have exceeded the GPS at one or more SWMUs at NFARS. There are no drinking water wells at the installation or in the surrounding neighborhoods as local municipalities supply drinking water. Additional details regarding the criteria used to eliminate wells and/or piezometers from the IWGP are provided below. It should be noted that NYSDEC has required the removal of the Alternate Termination Criteria in comments to the 2020 and 2021 Annual Comprehensive Sampling/Monitoring Reports. Accordingly, the S-A JV is in the process of preparing an update to the SMP that will eliminate the Alternate Termination Criteria; however, text describing those criteria will be retained herein until the updated SMP has been submitted to and approved by NYSDEC.

1.3.1 Termination of Groundwater Monitoring Criteria

The basis for determining whether sampling at a particular well or piezometer may be terminated under the IWGP is specified in Section 5.1.2 of the SMP (EA, 2021) and is determined using the following methodology:

1. GPS are achieved at the well or piezometer for four consecutive quarterly sampling events or another frequency as approved by NYSDEC; or
2. The well or piezometer has achieved Alternative Termination Criteria as defined in the following section; or
3. Other criteria acceptable by NYSDEC.

1.3.2 Alternative Termination Criteria

As also specified in Section 5.1.2 of the SMP (EA, 2021), groundwater monitoring may still be discontinued at a well or piezometer if the GPS are not achieved for four consecutive quarterly sampling events, if the following criteria are satisfied:

1. The chemical concentration of hazardous waste constituents in the well or piezometer indicate achievement of a "Zero Slope Condition" (as defined below); and
2. The total concentration of organics in the well or piezometer is no greater than 100 parts per billion (ppb), and no single organic compound concentration exceeds 50 ppb for a minimum of four consecutive quarterly sampling events or another frequency approved by NYSDEC; and
3. NFARS submits, and the NYSDEC approves an analysis, which indicates that the residual groundwater contamination would not result in an unacceptable risk to human health and the environment.
4. In the event that remedial systems with pumping wells are restarted, then termination criteria for the pumping well will be developed in coordination with NYSDEC and incorporated into a revised version of the SMP.

The determination of a zero-slope condition shall be made on a location-by-location basis using the following procedures:

- The sum concentration of hazardous waste constituents from the equivalent of the eight sampling events will be plotted versus time.
- If the curve which best fits these data points is linear, then a straight line using a least squares regression model will be fitted to the data and the slope of the fitted curve will be computed and designated as the estimated slope.
- If the data fits a non-linear form, then an exponential curve using a least square regression model will be fitted to the data. The estimated slope will be the first derivative of the curve at a value of time half-way between the data from the last two sampling points.

The estimated slope shall be deemed zero if:

- The slope of the line/curve is less than or equal to zero (i.e., the concentration is declining or stable) or the yearly decrease of the total concentration of hazardous waste constituents is less than the average overall precision of analytical methods used. NFARS and NYSDEC will develop a methodology of calculating the average overall precision prior to implementation of Termination Monitoring.
- In addition, the spatial and temporal distributions of the concentrations of compounds will be assessed to provide additional information regarding trends.

2 Summary of 2022 IWGP Activities

This section describes the field investigation tasks conducted in 2022 under the IWGP at NFARS. The following IWGP activities were performed during the Spring and Fall 2022 sampling/monitoring events:

- Well and piezometer inspections were performed, groundwater and surface water elevations were collected and passive diffusion bags (PDBs) were deployed at the applicable background monitoring wells and IWGP wells and piezometers at Sites 3, 5, 10, and 13 on 6 and 7 June 2022 (Spring 2022 event) and on 24 and 25 October 2022 (Fall 2022 event).
- PDB retrieval and groundwater/surface water sample collection activities were performed on 29 and 30 June 2022 (Spring 2022 event) and on 7 and 8 November 2022 and 6 December 2022 (Fall 2022 event).
- Minor repairs (e.g., missing bolts, locks, lids/caps) identified during well and piezometer gauging were completed during the Spring and Fall 2022 sampling/monitoring events. The need for major repairs to any wells or piezometers were not identified during those events.

The remainder of this section provides additional details associated with the field activities performed during the Spring and Fall 2022 sampling/monitoring events. Unless otherwise noted, all field activities were performed in accordance with the SMP (EA 2021).

2.1 Groundwater and Surface Water Elevation Measurements

The monitoring network under the IWGP consists of 123 monitoring/pumping/recovery wells and piezometers and nine surface water measurement locations. The groundwater and surface water elevation measurement locations are listed in Table 2-1 and illustrated on Figure 2-1. Although water level gauging occurred across two days during each event, water levels at each site were collected on a single day to provide accurate data for development of groundwater contours.

Static water levels were measured at 118 wells and piezometers and eight surface water locations on 6 and 7 June 2022 for the Spring 2022 monitoring event (Tables A-1 and A-2 [Appendix A]). Water levels were not measured at the following locations during this event: monitoring well MW10-8D (which was inadvertently omitted from the monitoring event); piezometers PZ3-3, PZ3-5, PZ3-5D and PZ3-6D (standing water was present at the ground surface), and surface water location SW8-9 (measurement location was dry). (SA J-V personnel were able to remove the obstruction in monitoring well MW10-8D that was noted during the Fall 2021 monitoring event.) Similarly, water levels were measured at 119 wells and piezometers and seven surface water locations on 24 and 25 October 2022 for the Fall 2022 monitoring event (Tables A-1 and A-2 [Appendix A]). Water levels were not measured at the following locations during this event: monitoring well MW10-8D (which was inadvertently omitted from the monitoring event); piezometers PZ3-6D (standing water was present at the ground surface), PZ13-1 (piezometer dry), and PZ13-3D (inaccessible due to construction trenching); and surface water locations SW8-9 and SW10-6 (measurement locations were dry).

Water level measurements were collected at each well, piezometer, or surface water location using an electronic water level indicator with an accuracy of 0.01 foot (ft). Water levels were referenced to a previously established reference point at each well, piezometer, and surface water location. Precipitation data for the measurement period were obtained from Weather Underground (www.wunderground.com) for Niagara Falls, New York (Station KIAG, Weather Underground 2022) to supplement the groundwater elevation data. The precipitation data are presented in Appendix B.

The monitoring network under the IWGP includes one core hole and 13 monitoring wells located within Site 8. Groundwater elevations were measured twice a year at each location (i.e., during the spring and fall monitoring events) under the IWGP. However, groundwater contours are not developed for Site 8 as part of the Annual Comprehensive Sampling/Monitoring Reports. Based on recent discussions with NYSDEC, the collection of surface water and groundwater elevations at Site 8 will be discontinued starting with the Spring 2023 monitoring event until such time that groundwater sampling is resumed to confirm that groundwater at Site 8 achieves the GPS, leading to Site Closure. In the interim, the core hole and monitoring wells at Site 8 will continue to be inspected annually and maintained until Site Closure is achieved at Site 8. Finally, the monitoring wells at Site 7 will be inspected annually and maintained until Site Closure is achieved at Site 7.

2.2 Groundwater Sampling

PDB retrieval and sample collection for the Spring 2022 sampling event was performed on 29 and 30 June 2022. A total of 22 IWGP wells and piezometers were sampled during the Spring 2022 sampling event, including: six locations at Site 3; six locations at Site 5; five locations at Site 10; four locations at Site 13; and one background location at Site 8. PDB retrieval and sample collection for the Fall 2022 sampling event was performed on 7 and 8 November 2022. During retrieval it was determined that a PDB had not been deployed in monitoring well MW5-5D. Therefore, a PDB was deployed in that monitoring well on 7 November 2022 and retrieved on 6 December 2022. A total of 19 IWGP wells and piezometers were sampled during the Fall 2022 sampling event, including: six locations at Site 5; eight locations at Site 10; four locations at Site 13; and one background location at Site 1. Table 2-2 presents a summary of the wells and piezometers sampled, sample analyses, and field quality assurance/quality control (QA/QC) samples collected during the Spring and Fall 2022 sampling events. The well and piezometer locations are shown on Figure 2-1.

As previously indicated, groundwater samples were collected using PDB samplers. Prior to PDB deployment, depth-to-water was measured at each well and piezometer to ensure there was sufficient water to deploy the PDB. Each PDB was then attached to a dedicated stainless-steel wire suspension apparatus and lowered to the midpoint of the screened interval. If there was insufficient water to reach the midpoint of the screened interval, the PDB was suspended at a lower elevation to ensure that it remained fully saturated throughout the deployment period. The PDBs were left undisturbed for a minimum two-week equilibrium period. At the time of retrieval, the water level in each well and piezometer was re-measured to ensure the PDB had remained submerged throughout the deployment period. Next, the PDBs were retrieved using the dedicated cables, the laboratory-supplied glassware was filled with water from the PDBs, and the samples were submitted to the analytical laboratory for analysis of VOCs.

2.3 Surface Water Sampling

Surface water samples were collected at six locations during the Spring 2022 sampling event (samples were not collected at locations SW10-5 and SW10-6 as those locations were dry) and seven locations during the Fall 2022 sampling event (a sample was not collected at location SW10-6 as that location was dry). Table 2-3 presents a summary of the surface water sampling locations, sample analyses, and field QA/QC samples collected during these sampling events and the surface water sampling locations are shown on Figure 2-1. Surface water quality parameters were also collected at each sampling location during each sampling event and are summarized in Table A-2 (Appendix A).

The surface water samples were collected using the dip method of filling the sample containers directly from the creek, except for the samples collected at location SW99-10. At location SW99-10, a polyethylene bailer was lowered into the creek to collect the surface water samples due to the height of the sampling platform above the water.

2.4 Quality Assurance/Quality Control Sampling

In general, QA/QC sampling is performed at a frequency of one sample per 20 field samples collected per matrix (i.e., groundwater versus surface water). Based on the number of samples collected during the Spring 2022 sampling event (22 groundwater samples and six surface water samples), the QA/QC samples for that event should have included two groundwater field duplicates, two groundwater matrix spike/matrix spike duplicates (MS/MSD) samples, one surface water field duplicate and one surface water MS/MSD sample. Similarly, based on the number of samples collected during the Fall 2022 sampling event (19 groundwater samples and seven surface water samples), the QA/QC samples should have included one groundwater field duplicate, one groundwater MS/MSD sample, one surface water field duplicate, and one surface water MS/MSD sample.

The QA/QC samples collected during the Spring 2022 sampling event included two groundwater field duplicates (PZ3-7D and MW5-6) and two groundwater MS/MSD samples (PW3-3A and MW5-1DA), as indicated on Table 2-2. Collection of surface water QA/QC samples was inadvertently omitted during the Spring 2022 monitoring event. The QA/QC samples collected during the Fall 2022 sampling event included one groundwater field duplicate (RW5-1) and one groundwater MS/MSD sample (RW5-1), as indicated on Table 2-2. The field team collected surface water field duplicate and MS/MSD samples from location SW8-8 during the Fall 2022 sampling event. However, upon receipt and review of the sample chain of custody form, the analytical laboratory was contacted and the analysis of those samples was cancelled as location SW8-8 was not part of the sampling scope for the Fall 2022 sampling event. Finally, trip blanks were also shipped with the field samples during each sampling event at a frequency of one trip blank per cooler. One cooler and one trip blank was shipped for the Spring 2022 sampling event and two coolers and two trip blanks were shipped for the Fall 2022 sampling event.

The laboratory QA/QC procedures were consistent with the associated requirements described in SW-846, Third Edition, (all promulgated updates) (EPA 1997) and the SMP (EA 2021). All laboratory analytical data were reviewed for compliance with precision, accuracy, representativeness, completeness, and comparability parameters using the guidelines and practices published in the EPA Contract Laboratory Program, National Functional Guidelines for Superfund Organic Methods Data Review (EPA 2008). A complete QA/QC summary is included in the data usability summary report and data validation reports provided in Appendix C. As noted therein, there were no significant QA/QC concerns and minor issues were address by adding validation qualifiers

where necessary. Overall, the data were determined to meet the project requirements and completeness goals, and all results are considered valid and useable.

Blank contamination was not identified in the laboratory method blanks or trip blanks associated with the Spring 2022 sampling event. However, method blank and trip blank contamination was noted for the Fall 2022 sampling event, resulting in the qualification of certain detections as estimated and certain low-level detections as non-detect.

2.5 Analytical Methods and Sample Handling

Each field sample was collected in laboratory-approved containers and submitted to ALS Environmental Laboratory (ALS), a DoD-certified laboratory. All groundwater and surface water samples were collected in accordance with the field documentation, chain-of-custody, sample identification, custody, and labeling procedures specified in the SMP (EA 2021). Samples were submitted to ALS for analysis of VOCs by U.S. Environmental Protection Agency (EPA) Method 8260C.

For each of the sites, the groundwater analytical results for detected compounds were compared to the GPS for program analytes, which were derived from NYSDEC Class GA Groundwater Standards, as set forth in New York Code of Rules and Regulations Part 703, Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations and Division of Water, Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values. The sample data associated with the Spring and Fall 2022 sampling events are described Sections 3 through 6 and the associated analytical laboratory reports, data usability summary report, and data validation reports are provided in Appendix C.

2.6 Decontamination and Investigative Derived Waste

Non-dedicated sampling tools (e.g., water level indicators) were decontaminated before and after use in accordance with the procedures in the SMP (EA 2021). Dedicated equipment (e.g., PDB harnesses and disposable bailers) did not require decontamination. No investigative-derived wastewater was generated during the sampling events and all personnel protective equipment (e.g., gloves) and general trash were disposed of offsite as non-regulated solid waste.

2.7 Inspections and Maintenance

Inspections of existing IRP groundwater monitoring/recovery/pumping wells and piezometers were performed on 6 and 7 June 2022 (Spring 2022 monitoring event) and on 24 and 25 October 2022 (Fall 2022 monitoring event). The purpose of these inspections was to document the physical condition of the each well/piezometer and to identify maintenance actions required to keep the wells/piezometers operational.

The well/piezometer inspections included the following:

- Inspection of well/piezometer identification marking and painting, protective casing lock, protective casing cover, monitoring well riser, concrete drainage pad, and guard posts.
- Inspection of each well/piezometer casing annulus for the presence of accumulated water.

The results of the inspections were documented on the well inspection checklists provided in Appendix D. The necessity for well/piezometer maintenance was determined by a review of the inspection results. Minor items identified during the inspection (e.g., missing well labels, bolts, well caps, locks, etc.) were addressed during the subject sampling/monitoring event. Wells/piezometers noted as missing equipment (i.e., PDB harnesses) were only addressed if the well/piezometer was subject to sampling during the current sampling/monitoring event; all other wells/piezometers will be addressed only if the wells/piezometers are added to the IWGP. More significant well/piezometer repairs (e.g., protective covers and concrete pads) that require a driller, will be addressed during a future mobilization.

Finally, the Site 3 landfill cap is subject to inspection on an annual basis. As necessary, maintenance activities are performed to address damage to the cap noted during the annual inspection and/or in response to any reported damage throughout the year. In 2022, maintenance activities were performed on two occasions to address damage to the landfill cap, as further described below.

The first incident requiring maintenance activities occurred in February 2022 when two trees on the Site 3 landfill cap were noted as toppled by high winds. The downed trees were identified as White Ash trees with S-shaped feeding galleries and D-shaped exit holes present beneath the bark (and cambium) on the sapwood of both trees, which is evident of emerald ash borer activity. The decomposition of the trees and the fact that the roots did not lift when the trees toppled is indicative of the fact that the trees had been dead for some time. The downed trees left holes in the cover soils that were approximately 18 inches wide, with no stump to remove. Topsoil and grass seed that was being stored on base was used to backfill and restore the disturbed areas. After the ash borer activity within the trees was confirmed to be dormant the trees were cut in pieces and loaded into a dumpster, then transported to the Modern Landfill Facility in Niagara Falls, NY in April 2022.

The second incident requiring maintenance activities occurred in April 2022 when a Heavy Expanded Mobility Tactical Truck (HEMTT) traversed the Site 3 Landfill cap near the intersection of Kinross Street Utzig Drive causing wheel ruts in the landfill cap. The incident was reported to NYSDEC by via email on 25 April 2022. Similar to the holes for the downed trees, the wheel ruts were restored with topsoil and grass seed stored on base. These maintenance activities were completed on 3 May 2022.

The annual inspection for the Site 3 landfill cap was completed on 29 June 2022. The landfill cap was found to be in good condition, with no maintenance activities required at that time. Summaries of the above-described maintenance activities and the annual inspection are documented in the landfill cap maintenance and inspection logs provided in Appendix D.

2.8 System Inspections and Discharge Monitoring

Prior to 2015, monitoring of the groundwater effluent from the pumping wells at Sites 10 and 13 were typically conducted during the fourth week of each month under the NFARS Industrial Waste Discharge Permit 15-16 issued by the Niagara County Sewer District No. 1 (2016). The pumping systems at Sites 10 and 13 and the groundwater treatment system (GWTS) at Site 10 were taken offline in 2015 in preparation for the implementation of the RAs at those sites. Groundwater extraction for the pumping systems at Sites 10 and 13 and effluent monitoring of the GWTS at Site 10 was subsequently discontinued in June 2018 (with approval from NYSDEC) as it was determined that the systems were no longer needed to remove chlorinated volatile organic compound (CVOC) mass following the implementation of the RAs at those sites. Accordingly, no extracted groundwater or

treatment system effluent was discharged to the Niagara County Sewer System in 2022. Finally, operation and maintenance inspections of the Site 10 and Site 13 pumping wells and at the GWTS treatment trailer at Site 10 were discontinued in June 2018 (again, with approval from NYSDEC).

3 Site 3 (LF008) – Landfill

Site 3 is a 9.4-acre inactive landfill located in the eastern portion of NFARS. Landfill operations began in 1952 in a former wetland area along Cayuga Creek and resulted in the placement of 8 to 10 feet of fill materials, including solid and potentially hazardous wastes. Two acres of the landfill were subsequently excavated, filled, and sporadically burned. After burning practices ceased in 1966, waste was buried in trenches in the southern portion of the landfill. The remainder of the landfill consists of regraded soil fill that contains small amounts of construction debris. In 1969, landfilling operations ceased, the landfill was capped with 6 inches to several feet of soil and the landfill was closed. Site 3 was subsequently identified as a SWMU in 1983. Site activities conducted since that time have been focused on addressing groundwater CVOC contamination associated with the landfill.

In 1996, three vertical pumping wells were installed in shallow bedrock, discharging to the publicly owned treatment works (POTW). A groundwater collection trench measuring 150 feet in length and excavated in bedrock was subsequently installed in 1999. Two of the pumping wells were abandoned following installation of the groundwater collection trench and the third pumping well was shut down in 2011. In September 2015, a treatment curtain of emulsified vegetable oil and zero valent iron (EZVI) mixture was placed in the groundwater collection trench. Site 3 was removed from the Niagara County Sewer Discharge Permit in May 2016.

The existing IWGP monitoring/sampling network at Site 3 consists of 32 wells/piezometers (including 13 screened in the overburden, 17 screened in the shallow bedrock, and 2 screened in the deep bedrock) and three surface water monitoring and/or sampling locations (Figure 3-1). The current scope of elevation monitoring under the IWGP involves the collection of groundwater elevations from all 32 wells/piezometers in the network and the collection of surface water elevations at two of three locations (SW3-2 and SW3-3 only). The current sampling scope at Site 3 under the IWGP involves annual sampling of six shallow bedrock wells/piezometers (i.e., MW3-3DA, MW3-4DA, PW3-3A, PZ3-6D, PZ3-7D, and PZ3-8D) and semi-annual sampling of three surface water locations (SW3-2, SW3-3, and SW3-15).

3.1 2022 Field Activities

Groundwater elevations were measured at 28 wells/piezometers and surface water elevations were measured at two locations on 7 June 2022 (Spring monitoring event). No elevation measurements were recorded at piezometers PZ3-3, PZ3-5, PZ3-5D, or PZ3-6D during that event, as standing water was present at the ground surface at those locations. PDBs were deployed in one inactive pumping well (PW3-3A) and five shallow bedrock monitoring wells/piezometers (MW3-3DA, MW3-4DA, PZ3-6D, PZ3-7D, and PZ3-8D) on 9 June 2022. PDB retrieval and sample collection was performed on 29 June 2022. Also, surface water grab samples were collected at locations SW3-2, SW3-3, and SW3-15 on 29 June 2022. All groundwater and surface water samples were submitted to ALS for analysis of VOCs.

Similarly, groundwater elevations were measured at 31 wells/piezometers and surface water elevations were measured at two locations on 25 October 2022 (Fall monitoring event). No elevation measurement was collected at piezometers PZ3-6D during that event, as standing water was present at the ground surface at that location. PDBs were not deployed in Fall 2022 as the Site 3 wells/piezometers are only sampled annually in the spring. However, surface water grab samples were collected at locations SW3-2, SW3-3, and SW3-15 on 7 November 2022 and submitted to ALS for analysis of VOCs.

3.2 Groundwater and Surface Water Data

3.2.1 Groundwater Elevations and Flow Direction

The groundwater elevation data collected on 7 June 2022 (Spring event) and 25 October 2022 (Fall event) were used to develop groundwater contours for the overburden and bedrock water bearing units. The monitoring/sampling locations, water level elevations and associated contours are presented on Figures 3-2 (overburden) and 3-4 (shallow bedrock) for the Spring 2022 monitoring event and Figures 3-3 (overburden) and 3-5 (shallow bedrock) for the Fall 2022 monitoring event. Additional information regarding the groundwater contours and flow gradients are presented in the following sections.

3.2.1.1 Overburden Groundwater and Surface Water

Overburden groundwater at Site 3 generally flows to the southeast toward Cayuga Creek. However, the groundwater in the northwest portion of Site 3 appears to flow toward the northwest. Historically, the overburden adjacent to Cayuga Creek was noted as periodically unsaturated during dry periods as the overburden is only three to six feet thick in this area. Historical reporting also indicated that the portion of Cayuga Creek located adjacent to Site 3 fluctuates between losing and gaining conditions throughout the year.

The Spring 2022 overburden groundwater elevations and contours are presented on Figure 3-2 and the Fall 2022 overburden groundwater elevations and contours are presented on Figure 3-3. The overburden contours for both events indicate groundwater flow is to the southeast toward Cayuga Creek. The average overburden horizontal gradient was approximately 1.8 percent for the Spring 2022 event and approximately 1.0 percent for the Fall 2022 event, which are consistent with historic measurements.

Finally, comparisons of the surface water elevations at location SW3-2 to the groundwater elevations at nearby piezometer PZ3-5 and the surface water elevations at location SW3-3 to the groundwater elevations at nearby well MW3-7 were performed to determine if the portion of Cayuga Creek adjacent to Site 3 was in a gaining or losing condition during the Spring and Fall 2022 monitoring events. The surface water elevation at location SW3-2 was approximately 1.8 feet higher than the groundwater elevation at piezometer PZ3-5 and the surface water elevation at location SW3-3 was approximately 0.6 feet higher than the groundwater elevation at well MW3-7, indicating that the portion of Cayuga Creek adjacent to Site 3 was in a losing condition during the Spring 2022 event. The surface water elevation at location SW3-2 was approximately 1.2 feet higher than the groundwater elevation at piezometer PZ3-5, indicating that the northern portion of Cayuga Creek adjacent to Site 3 was in a losing condition during the Fall 2022 event. However, the surface water elevation at locations SW3-3 was approximately 0.7 feet lower than the groundwater elevation at well MW3-7, indicating that the southern portion of Cayuga Creek adjacent to Site 3 was in a gaining condition during the Fall 2022 event.

3.2.1.2 Bedrock Groundwater

As with overburden groundwater, bedrock groundwater generally flows to the southeast toward Cayuga Creek, while groundwater in the northwest portion of Site 3 appears to flow toward the northwest. Historical reporting also indicated that bedrock groundwater west of Cayuga Creek flows to the southeast with some localized variations due to fractured bedrock. One such historical variation is a localized depression observed in the vicinity of the groundwater collection trench, which is likely attributable to the increased permeability of the trench

materials (as opposed to groundwater extraction which has been discontinued). Finally, bedrock groundwater east of the creek appears to flow west toward the creek.

Previous annual reports have also indicated that a potential hydraulic connection exists between Cayuga Creek and the shallow-bedrock zone, which is substantiated by the presence of bedrock outcroppings and the relatively thin veneer of sediment present at certain locations along the creek. However, multiple dye tracer tests performed at Site 3 were unable to trace a groundwater connection between wells/piezometers located on the west and east sides of the creek (E&E 2007).

The Spring 2022 bedrock groundwater elevations and contours are presented on Figure 3-4 and the Fall 2022 bedrock groundwater elevations and contours are presented on Figure 3-5. The groundwater elevations appear to be the highest in the vicinity of monitoring well MW3-6D in the northwest portion of the Site. Bedrock groundwater north of this well appears to flow to the north, while groundwater east and south of this well predominantly flows toward the southeast. The magnitude of the shallow bedrock horizontal gradient was very low (less than one percent) during both events, which is consistent with historical observations. A groundwater contour map was not prepared for deep bedrock groundwater as there are only two deep bedrock monitoring wells located within Site 3. However, a comparison of the groundwater elevations in monitoring well MW3-8E (590.84 feet above mean sea level [amsl] in Spring 2022 and 590.50 feet amsl in Fall 2022) and monitoring well MW3-1E (590.39 feet amsl in Spring 2022 and 590.00 feet amsl in Fall 2022) indicates that there is a potential for deep bedrock groundwater to flow from the northwest to the southeast between these two wells.

3.2.1.3 Vertical Gradients

Historical documentation indicates that the vertical gradients have changed from upward to downward (or vice versa) depending on season. A downward vertical gradient could be anticipated between the overburden and shallow bedrock during dry periods due to the very limited thickness of the overburden at Site 3 and increased upward gradients would be anticipated during seasons when groundwater recharge is high and there is an increase in overall groundwater flow across the Site. As noted in prior reports, the presence of artesian shallow bedrock monitoring wells/piezometers east of Cayuga Creek indicates upward flow potential near the creek similar to what is observed west of the creek.

A comparison of groundwater elevations for overburden, shallow bedrock, and deep bedrock monitoring wells/piezometers for the Spring and Fall 2022 events indicate that there was an upward vertical gradient from deep bedrock to shallow bedrock and shallow bedrock to overburden adjacent to Cayuga Creek. This is evident when comparing the Spring 2022 groundwater elevations for one well and two piezometers (one screened in each zone) adjacent to Cayuga Creek: overburden piezometer PZ3-3 (no measurement), shallow bedrock piezometer PZ3-3D (588.50 feet amsl), and deep bedrock monitoring well MW3-1E (590.39 feet amsl). A comparison of the Fall 2022 groundwater elevations indicated similar results: overburden piezometer PZ3-3 (587.87 feet amsl), shallow bedrock piezometer PZ3-3D (588.23 feet amsl), and deep bedrock monitoring well MW3-1E (590.00 feet amsl).

3.2.2 Groundwater Analytical Results

Groundwater samples were collected from six wells/piezometers located within Site 3 (MW3-3DA, MW3-4DA, PW3-3A, PZ3-6D, PZ3-7D, and PZ3-8D) during the Spring 2022 sampling event and submitted for analysis of VOCs. (As noted above, the Site 3 wells/piezometers are not sampled in fall sampling events.) The groundwater

analytical data associated with these samples are presented in Table 3-1 and on Figure 3-6. The laboratory analytical data reports, and associated data usability and data validation reports are provided in Appendix C.

A review of the data presented in Table 3-1 and on Figure 3-6 indicates the following VOCs were detected during the Spring 2022 sampling event:

- Benzene was detected in one well (PW3-3A) at a concentration of 0.43 µg/L (estimated), which is less than the GPS of 1 µg/L.
- Cis-1,2-dichlorethene (cis-1,2-DCE) was detected in three wells and one piezometer (MW3-3DA, MW3-4DA, PW3-3A, and PZ3-7D) at concentrations ranging from 1.9 µg/L (with a sample duplicate of 1.9 µg/L) to 40.9 µg/L. Further, this constituent was detected in three wells (MW3-3DA, MW3-4DA and PW3-3A) at concentrations greater than the GPS of 5 µg/L (ranging from 5.1 µg/L to 40.9 µg/L). The maximum concentration was detected in well PW3-3A.
- Trans-1,2-dichlorethene (trans-1,2-DCE) was detected in all one well (PW3-3A) at a concentration of 0.72 µg/L (estimated), which is less than the GPS of 5 µg/L.
- Trichloroethene (TCE) was detected in one well (PW3-3A) at a concentration of 10.8 µg/L, which is greater than the GPS of 5 µg/L.
- Vinyl Chloride (VC) was detected in three wells (MW3-3DA, MW3-4DA, and PW3-3A) at concentrations ranging from 3.5 µg/L to 37.6 µg/L, which are all greater than the GPS of 2 µg/L. The maximum concentration was detected in well PW3-3A.

3.2.3 Surface Water Analytical Results

Surface water samples were collected at three locations within Site 3 (SW3-2, SW3-3, and SW3-15) during the Spring and Fall 2022 sampling events to determine whether site-related COCs have entered Cayuga Creek. The surface water analytical data for Site 3 are presented in Table 3-2 and the sampling locations are illustrated on Figures 3-6 (Spring 2022 event) and 3-7 (Fall 2022 event). Readings of pH, temperature, and conductivity were recorded at the time of sample collection and those data are presented in Table A-2 (Appendix A). The laboratory analytical data reports, and associated data usability and data validation reports are provided in Appendix C.

A review of the data presented in Table 3-2 and on Figures 3-6 and 3-7 indicates that the following two VOCs were detected during at least one of the 2022 sampling events:

- Chloroform was detected at all three locations during the Spring 2022 sampling event at estimated concentrations ranging from 0.40 µg/L to 0.50 µg/L. Similarly, chloroform was detected at all three locations during the Fall 2022 sampling event at estimated concentrations ranging from 0.79 µg/L to 1.1 µg/L. The Fall 2022 sample results were also qualified due to trip blank contamination. The maximum concentration was detected at location SW3-2 during each event.
- Iodomethane was not detected at any location during the Spring 2022 sampling event. However, this constituent was detected at one location (SW3-2) during the Fall 2022 sampling event at an estimated concentration of 1.4 µg/L. This sample result was also qualified due to trip blank contamination.

3.3 Data Evaluation and Recommendations

The data from the Spring 2022 sampling event were combined with the data from the seven previous sampling events for each of the Site 3 IWGP wells/piezometers (i.e., MW3-3DA, MW3-4DA, PW3-3A, PZ3-6D, PZ3-7D, and PZ3-8D) to evaluate data trends and develop appropriate recommendations. A review of the data tables and trend graphs included in Appendix E indicates the following:

- The total VOC concentrations for the June 2022 event continued to be within the range of detected concentrations over the prior seven sampling events in each of the Site 3 wells/piezometers, except for PW3-3A where the total VOC concentration of 90.45 µg/L observed during the June 2022 event represents the highest concentration observed over the last eight monitoring events. The previous highest concentration of 81.97 µg/L was observed in June 2018.
- Except for TCE in well PW3-3A in June 2019 and June 2022, cis-1,2-DCE and VC were the only VOCs detected at concentrations greater than the GPS in Site 3 groundwater over the last eight sampling events. Further, individual constituents have been detected at concentrations greater than the corresponding GPS during only two of the last eight sampling events at PZ3-6D (most recently in June 2018) and only one of the last eight sampling events at PZ3-8D (October 2016).
- While groundwater concentrations in well PW3-3A indicate some variability over time, the total VOC concentration trends appear to be stable or declining in all six wells/piezometers within Site 3. Further, long-term data trends suggest that attenuation continues to occur based on stable or decreasing cis-1,2-DCE concentrations, combined with consistent detections of VC, which is a daughter compound of cis-1,2-DCE formed through reductive dechlorination.
- Although cis-1,2-DCE and VC persist in shallow bedrock groundwater both west and east of Cayuga Creek, surface water sampling continues to indicate that these constituents are not impacting surface water quality in Cayuga Creek within Site 3.

The following recommendations are made based on the data evaluation provided above:

- Continue annual sampling at six wells/piezometers within Site 3, including: MW3-3DA, MW3-4DA, PW3-3A, PZ6-6D, PZ3-7D and PZ3-8D.
- Continue semi-annual sampling at three surface water sampling locations within Site 3, including: SW3-2, SW3-3, and SW3-15.

4 Site 5 (DS004) – Former BOMARC Missile Site

Site 5 was the primary launching site for Boeing Michigan Aeronautical Research Center (BOMARC) surface-to-air missiles. The missiles were positioned at launcher pits equipped with adjacent launcher shelters. When the missiles were decommissioned, the walls, roof, and associated machinery of the launcher shelters were pushed into the launcher pits and buried with soil. Site 5 currently includes vehicle maintenance buildings and a petroleum, oil, and lubricant storage area for JP-8 jet fuel.

Investigations at Site 5 were initiated after discovery of CVOC contamination in soil near missile Shelter F-5 and continued when CVOC contamination was also observed in downgradient groundwater near missile Shelter F-6. Potential risk to human health or the environment was subsequently evaluated and dismissed due to an incomplete exposure pathway. A Resource Conservation and Recovery Act (RCRA) investigation was conducted that included subsurface soil and groundwater sampling near the missile shelters and additional groundwater monitoring well installations within the plume of impacted groundwater. The underground sumps of several launcher pits in the source area were excavated and sampled, and the system formerly used to drain water from the missile launcher sumps was surveyed, sampled, and video-inspected to determine if it was acting as a contaminant migration pathway.

In response to the prior investigations, in-situ bioremediation (injection of hydrogen into the subsurface) was performed as a corrective measure for the Air Force Reserve Center, with the initial injection performed in 2001. Additional injections were performed in 2002 and 2006, followed by long-term groundwater monitoring. Prior reports noted that TCE concentrations decreased by several orders of magnitude and to non-detect in many instances following the hydrogen release compound (HRC) injections in 2001, 2002, and 2006. HRC injections were effective in reducing CVOC concentrations (particularly TCE) in groundwater, but complete dechlorination of cis-1,2-DCE and VC did not occur. As a result, EZVI injections were conducted in September 2015 and June 2018 to address the CVOC concentrations remaining in the overburden and shallow bedrock groundwater. Performance monitoring of the 2015 and 2018 EZVI injections indicated that the injections were effective in reducing CVOC concentrations at Site 5.

The existing IWGP monitoring/sampling network at Site 5 consists of 23 wells (including 10 screened in the overburden, 12 screened in the shallow bedrock, and 1 screened in the deep bedrock) (Figure 4-1). The current scope of elevation monitoring under the IWGP involves the collection of groundwater elevations from all 23 wells in the network, while the current sampling scope at Site 5 under the IWGP involves semi-annual sampling of four overburden wells (MW5-6, RW5-1, RW5-2, and RW5-4) and two shallow bedrock wells (MW5-1DA and MW5-5D).

4.1 2022 Field Activities

Groundwater elevations were measured at all 23 wells on 6 June 2022 (Spring event) and 24 October 2022 (Fall event). PDBs were initially deployed in all six wells on 9 June 2022 (Spring event). PDBs were deployed in all five wells (MW5-1DA, MW5-6, RW5-1, RW5-2, and RW5-4) on 29 October 2022 (Fall event). It was discovered during PDB retrieval that a PDB was inadvertently not deployed in MW5-5D on 24 October 2022. As a result, a PDB was deployed in that well on 7 November 2022. PDB retrieval and sample collection was performed on 29

June 2022 (Spring event), as well as 7 November and 6 December 2022 (Fall event), with all collected samples submitted to ALS for analysis of VOCs.

Upon completion of the Fall 2022 sampling/monitoring event, remedial injection performed to address the remaining CVOC concentrations in the overburden and shallow bedrock groundwater at Sites 5 and 10, as summarized in the April 2023 Final Remedial Injection Summary (S-A JV 2023). Those remedial injection activities involved the in-situ injection of approximately 6,810 gallons of a dilute organic carbon substrate solution (ABC-Olé, an emulsified vegetable oil manufactured by Redox Tech, LLC) via overburden direct-push technology (DPT) injection points and gravity fed into existing bedrock core holes. Specifically, a total of approximately 3,160 gallons of ABC-Olé solution (including approximately 725 pounds of ABC-Olé) were injected via 13 overburden DPT points adjacent to wells MW5-1DA (three points), RW5-1 (five points) and RW5-2 (five points) and approximately 3,650 gallons of ABC-Olé solution (including approximately 850 pounds of ABC-Olé) gravity fed into three bedrock core holes (CH5-1, CH5-2, and CH5-3).

Separate from the groundwater-related activities described above, the Air Force initiated a military construction (MILCON) project at Site 5 in Spring 2022. That MILCON project involved the installation of a hydrant fueling system requiring excavation and dewatering activities near Site 5 that continued into 2023. A review of the 2021 and 2022 overburden groundwater contours indicate that the construction activities did not appear to have a significant impact on the overburden groundwater flow directions and contours.

4.2 Groundwater Data

4.2.1 Groundwater Elevations and Flow Direction

The groundwater elevation data collected on 6 June 2022 (Spring event) and 24 October 2022 (Fall event) were used to develop groundwater contours for the overburden and bedrock water bearing units. The monitoring/sampling locations, water level elevations and associated contours are presented on Figures 4-2 (overburden) and 4-4 (shallow bedrock) for the Spring 2022 monitoring event and Figures 4-3 (overburden) and 4-5 (shallow bedrock) for the Fall 2022 monitoring event. Additional information regarding the groundwater contours and flow gradients are presented in the following sections.

4.2.1.1 Overburden Groundwater

Historically, the predominant direction of overburden groundwater flow at Site 5 is to the south; however, localized radial flow components (primarily to the west) have been observed during previous monitoring events. The localized variability is believed to be a result of the various surface (e.g., paved parking area, drainage swales, and grassy areas) and subsurface features (e.g., buried launch pads and storm drains) which produce different infiltration recharge rates following precipitation events. Further, the variability of historical overburden groundwater flow directions may also be due to the relatively low magnitude of the horizontal gradient at the site.

The Spring 2022 overburden groundwater elevations and contours are presented on Figure 4-2 and the Fall 2022 overburden groundwater elevations and contours are presented on Figure 4-3. The overburden groundwater contour map for the Spring 2022 event indicates that the groundwater flow was to the west. The overburden groundwater contour map for the Fall 2022 event indicates that groundwater flow was to the southwest. The

average overburden horizontal gradient for the Spring and Fall 2022 events were both less than one percent. Both calculated horizontal gradients were consistent with historical measurements.

4.2.1.2 Bedrock Groundwater

As with overburden groundwater, historical data indicate that shallow bedrock groundwater predominantly flows to the south. The magnitude of the horizontal flow gradient at Site 5 is typically very low (i.e., less than one percent).

The Spring 2022 bedrock groundwater elevations and contours are presented on Figure 4-4 and the Fall 2022 bedrock groundwater elevations and contours are presented on Figure 4-5. The shallow bedrock groundwater flow direction was predominantly to the southwest during the Spring 2022 and Fall 2022 events. Consistent with prior measurements, the magnitude of the shallow bedrock horizontal gradient was approximately 1.3 percent during the Spring 2022 event and less than one percent during the Fall 2022 event. Finally, a deep bedrock groundwater contour map was not prepared as MW5-1E is the only deep bedrock monitoring well within Site 5.

4.2.1.3 Vertical Gradients

A comparison of groundwater elevations for overburden, shallow bedrock, and deep bedrock wells in the central portion of the site indicated that there was a downward vertical gradient from overburden to shallow bedrock to deep bedrock at Site 5 during both the Spring and Fall 2022 monitoring events. This is evident when comparing the Spring 2022 groundwater elevations for three adjacent monitoring wells (one screened in each zone) in the central portion of the site: overburden well MW5-6 (588.96 feet amsl), shallow bedrock well MW5-5D (586.78 feet amsl), and deep bedrock well MW5-1E (583.69 feet amsl). Comparison of the Fall 2022 groundwater elevations in the same wells also indicated a downward vertical gradient: MW5-6 (588.68 feet amsl), MW5-5D (587.24 feet amsl), and MW5-1E (584.17 feet amsl). These results are consistent with historical vertical gradients observed at the site.

4.2.2 Groundwater Analytical Results

Groundwater samples were collected from six wells located within Site 5 (MW5-1DA, MW5-5D, MW5-6, RW5-1, RW5-2, and RW5-4) during the Spring and Fall 2022 sampling events and submitted for analysis of VOCs. The groundwater analytical data associated with these samples are presented in Table 4-1 and on Figures 4-6 (Spring 2022 event) and 4-7 (Fall 2022 event). The laboratory analytical data reports, and associated data usability and data validation reports are provided in Appendix C.

A review of the data presented in Table 4-1 and on Figures 4-6 and 4-7 indicates the following 11 VOCs were detected during at least one of the 2022 sampling events:

- 1,1-Dichloroethene was detected in one well (RW5-1) during the Spring 2022 sampling event at a concentration of 1.4 µg/L, which is less than the GPS of 5 µg/L. This constituent was not detected in any wells during the Fall 2022 sampling event.
- 2-Butanone (MEK) was not detected in any wells during the Spring 2022 sampling event. However, this constituent was detected in one well (MW5-1DA) during the Fall 2022 sampling event at an estimated concentration of 3.3 µg/L, which is less than the GPS of 50 µg/L.

- Acetone was detected in one well (MW5-5D) during the Spring 2022 sampling event at an estimated concentration of 4.8 µg/L, which is less than the GPS of 50 µg/L. This constituent was also detected in one well (MW5-5D) during the Fall 2022 sampling event at a concentration of 6.9 µg/L, which is less than the GPS of 50 µg/L.
- Benzene was detected in one well (RW5-4) during the Spring 2022 sampling event at an estimated concentration of 0.38 µg/L, which is less than the GPS of 1 µg/L. This constituent was not detected in any wells during the Fall 2022 sampling event.
- Chloroethane was detected in one well (RW5-1) during the Spring 2022 sampling event at a concentration of 26.2 µg/L, which is greater than the GPS of 5 µg/L. This constituent was also detected in two wells (MW5-1DA and RW5-1) during the Fall 2022 sampling event at concentrations ranging from 0.73 µg/L (estimated) to 7.9 µg/L (with a sample duplicate concentration of 9.5 µg/L [estimated]). However, only well RW5-1 exceeded the GPS of 5 µg/L.
- Cis-1,2-DCE was detected in all six wells during the Spring 2022 sampling event at concentrations ranging from 0.89 µg/L (estimated) to 1,390 µg/L. Further, this constituent was detected in three wells (MW5-5D, RW5-1, and RW5-2) at concentrations greater than the GPS of 5 µg/L (ranging from 31.2 µg/L to 1,390 µg/L). The maximum concentration was detected in well RW5-1. This constituent was also detected in all six wells during the Fall 2022 sampling event at concentrations ranging from 0.80 µg/L (estimated, with a sample duplicate of 0.63 µg/L [estimated]) to 106 µg/L. However, only well RW5-2 exceeded the GPS of 5 µg/L.
- Iodomethane was not detected in any wells during the Spring 2022 sampling event. However, this constituent was detected in one well (MW5-5D) during the Fall 2022 sampling event at an estimated concentration of 0.87 µg/L, which is less than the GPS of 5 µg/L. This sample result was also qualified due to blank contamination.
- Toluene was detected in three wells (MW5-6, RW5-1, and RW5-4) during the Spring 2022 sampling event at concentrations ranging from of 0.54 µg/L (estimated with a sample duplicate of 0.63 µg/L [estimated]) to 2.8 µg/L, all of which are less than the GPS of 5 µg/L. This constituent was detected in the same three wells during the Fall 2022 sampling event at concentrations ranging from 1.5 µg/L (estimated) to 10.3 µg/L (with a sample duplicate of 10.6 µg/L [estimated]). However, only well RW5-1 exceeded the GPS of 5 µg/L.
- Trans-1,2-dichloroethene (trans-1,2-DCE) was detected in three wells (MW5-5D, RW5-1, and RW5-2) during the Spring 2022 sampling event at concentrations ranging from 0.71 µg/L (estimated) to 7.6 µg/L. However, only well RW5-1 exceeded the GPS of 5 µg/L. This constituent was detected in two wells (MW5-6 and RW5-1) during the Fall 2022 sampling event at estimated concentrations ranging from 0.5 µg/L (with a sample duplicate of 0.56 µg/L) to 0.73 µg/L, which are both less than the GPS of 5 µg/L.
- TCE was detected in three wells (MW5-5D, MW5-6, and RW5-1) during the Spring 2022 sampling event at concentrations ranging from 0.6 µg/L (estimated, with a sample duplicate of 0.56 µg/L [estimated]) to 3.0 µg/L, which are all less than the GPS of 5 µg/L. This constituent was also detected in one well (MW5-5D) during the Fall 2022 sampling event at an estimated concentration of 1.6 µg/L, which is less than the GPS of 5 µg/L.
- VC was detected in four wells (MW5-5D, MW5-6, RW5-1, and RW5-2) during the Spring 2022 sampling event at concentrations ranging from 0.42 µg/L (estimated, with a sample duplicate of 0.45 µg/L [estimated]) to 767 µg/L. Further, this constituent was detected in three wells (MW5-5D, RW5-1, and RW5-2) at concentrations exceeding the GPS of 2 µg/L (ranging from 28.9 µg/L to 767 µg/L). The maximum concentration was detected in well RW5-1. This constituent was also detected in five wells (MW5-5D, MW5-6, RW5-1, RW5-2,

and RW5-4) during the Fall 2022 sampling event at concentrations ranging from 0.35 µg/L (estimated) to 516 µg/L (estimated). However, only well RW5-2 exceeded the GPS of 2 µg/L.

4.3 Data Evaluation and Recommendations

The data from the Spring and Fall 2022 sampling events were combined with the data from the six previous sampling events for each of the Site 5 IWGP wells (i.e., MW5-1DA, MW5-5D, MW5-6, RW5-1, RW5-2, and RW5-4) to evaluate data trends and develop appropriate recommendations. A review of the data tables and trend graphs presented in Appendix E, indicates the following:

- Total VOC concentrations in 2022 were within the range of detected concentrations over the prior six sampling events in each of the Site 5 wells, except for wells RW5-1 and RW5-2.
  - The total VOC concentration of 2,198.50 µg/L at well RW5-1 in June 2022 represents the highest concentration at that well over the last eight sampling events (the previous highest concentration was 474.7 µg/L in April 2019). This total VOC concentration was largely attributed to cis-1,2-DCE and VC at concentrations of 1,390 µg/L and 767 µg/L, respectively. However, the increase was temporary as the total VOC concentration at well RW5-1 decreased to 21.6 µg/L in November 2022.
  - The total VOC concentrations of 582.1 µg/L in June 2022 and 622 µg/L in November 2022 at well RW5-2 represent the highest concentrations at that well over the last eight sampling events (the previous highest concentration was 130.8 µg/L in June 2019). These total VOC concentrations were largely attributed to cis-1,2-DCE (358 µg/L in June 2022 and 106 µg/L in November 2022) and VC (223 µg/L in June 2022 and 516 µg/L in November 2022).
  - As previously indicated, remedial injection activities were completed at Site 5 following the November 2022 sampling event. Those activities involved the injection of approximately 1,210 gallons of ABC-Olé solution (including approximately 275 pounds of ABC-Olé) via five DPT points adjacent to well RW5-1 and approximately 1,225 gallons of ABC-Olé solution (including approximately 280 pounds of ABC-Olé) via five DPT points adjacent to well RW5-2.
- Cis-1,2-DCE and VC were detected most frequently at concentrations greater than the corresponding GPS in Site 5 groundwater over the last eight sampling events. Trans-1,2-DCE was also consistently detected at concentrations greater than the corresponding GPS at well MW5-5D. Other constituents were sporadically detected in various wells at concentrations greater than their corresponding GPS over the last eight sampling events. Further, individual constituents have been detected at concentrations greater than the corresponding GPS during only two of the last eight sampling events at well MW5-6 (most recently in July 2021) and none of the last eight sampling events at well RW5-4. The presence of cis-1,2-DCE and VC is indicative of attenuation of CVOCs (including by reductive dichlorination) following the 2015 and 2018 injection events.
- Although the trend graphs indicate some variability in the total VOC concentrations in several wells, the total VOC concentration trends appear to be stable or declining in four of the six wells (MW5-1DA, MW5-5D, MW5-6, and RW5-4). Further, the total VOC trend in bedrock well MW5-5D continues to indicate an overall decreasing trend in total VOC concentrations following the 2018 EZVI injection. The total VOC concentration in this well has decreased over 99% from approximately 7,980 µg/L in October 2016 to approximately 70 µg/L in June 2022 (the December 2022 result was even lower [approximately 11 µg/L], but the sample was collected immediately following the remedial injection event). Finally, while the total VOC concentration trend

appears to be increasing in RW5-4, all detected constituents remain at concentrations less than the GPS (with no individual constituent exceeding the corresponding GPS since October 2018).

The following recommendations are made based on the data evaluation provided above:

- Continue semi-annual sampling at wells MW5-1DA, MW5-5D, MW5-6, RW5-1, RW5-2, and RW5-4.
- Per Table 2-2 of the April 2022 Final Remedial Injection Work Plan, quarterly performance monitoring will also be performed in 2022 at wells MW5-1DA, MW5-5D, RW5-1, and RW5-2 for VOCs, total organic carbon, dissolved gases, and field parameters to monitor the effectiveness of the remedial injections. The second and third quarterly performance monitoring events will be performed concurrently with the Spring and Fall 2023 monitoring/sampling events under the IWGP.

5 Site 10 (FT005) – Former Fire Training Area No. 1

Historical operations at the Site 10 fire-training area included the burning of waste oil, solvents, and jet fuel as part of fire-training exercises between 1955 and 1963. The former burn pit used for these activities measured approximately 100 feet in diameter. This site is currently unused and covered with thick grass and weeds. The ground surface slopes to the south toward Cayuga Creek.

An Interim Corrective Measure Implementation (CMI) was completed in 1996 to address site impacts. The CMI used six-phase soil heating within the source area to heat groundwater and collect and treat soil vapors and condensate. A second CMI was initiated in June 1998, which included groundwater extraction from an overburden groundwater collection trench. Water was initially pumped directly to the POTW for treatment. The CMI was modified in 2002 to include a vertical pumping well near the source area as a secondary means of controlling groundwater migration and to remove residual contaminant mass. An onsite GWTS was added so that groundwater extracted from Site 10 could be treated for VOCs using an air stripper system prior to discharging to the POTW. The GWTS remained in operation until September 2015, when it was taken offline in preparation for the first EZVI injection in September 2015. A second injection of EZVI was conducted in June 2018 to address remaining CVOC contamination in groundwater. The GWTS has remained offline since the EZVI injections as the system is no longer needed to remove CVOC mass.

The existing IWGP monitoring/sampling network at Site 10 consists of 26 wells and one piezometer (including 11 screened in the overburden, 11 screened in the shallow bedrock, and 5 screened in the deep bedrock) and four surface water monitoring and/or sampling locations (Figure 5-1). Also, two surface water monitoring and/or sampling locations downstream of Site 10 (SW99-10 and SW99-14, see Figure 1-1) are included when discussing the Site 10 monitoring network. The current scope of elevation monitoring under the IWGP involves the collection of groundwater elevations from all 26 wells and one piezometer in the network and the collection of surface water elevations at three of four locations (SW10-5, SW10-6, and SW10-7) within Site 10 and both locations downstream of Site 10 (SW99-10 and SW99-14). The current sampling scope at Site 10 under the IWGP involves annual sampling of two overburden wells and one piezometer (MW10-3, MW10-7, PZ10-7) each spring, annual sampling of five shallow bedrock wells (MW10-1DA, MW10-3D, MW10-4D, MW10-9D, and MW10-10D) and one deep bedrock well (MW10-4E) each fall, and semi-annual sampling of one overburden pumping well (PW10-1) and one shallow bedrock pumping well (PW10-2). Finally, surface water samples are collected semi-annually from four locations within Site 10 (SW10-5, SW10-6, SW10-7, and SW10-8) and one location downstream of Site 10 (SW99-10).

5.1 2022 Field Activities

Groundwater elevations were measured at 25 wells and one piezometer and surface water elevations were measured at three locations within Site 10 and two locations downstream of Site 10 on 6 June 2022 (Spring event). An elevation measurement was not recorded at well MW10-8D during that event (location inadvertently omitted). PDBs were deployed in the two overburden wells and one piezometer (MW10-3, MW10-7, and PZ10-7) and two pumping wells (PW10-1 and PW10-2) on 6 and 8 June 2022. PDB retrieval and sample collection was performed on 30 June 2022. Surface water grab samples were also collected at locations SW10-7, SW10-8, and SW99-10 on 30 June 2022. Surface water samples were not collected at locations SW10-5 and SW10-6, as both

locations were noted as dry on 30 June 2022. All groundwater and surface water samples were submitted to ALS for analysis of VOCs.

Similarly, groundwater elevations were measured at 25 wells and one piezometer and surface water elevations were measured at two locations within Site 10 and two locations downstream of Site 10 on 24 October 2022 (Spring event). Elevation measurements were not recorded at well MW10-8D (location inadvertently omitted) or surface water location SW10-6 (location was dry) during that event. PDBs were deployed in the six bedrock wells (MW10-1DA, MW10-3D, MW10-4D, MW10-4E, MW10-9D, and MW10-10D) and two pumping wells (PW10-1 and PW10-2) on 24 October 2022. PDB retrieval and sample collection was performed on 8 November 2022. Surface water grab samples were also collected at locations SW10-5, SW10-7, SW10-8, and SW99-10 on 8 November 2022. All groundwater and surface water samples were submitted to ALS for analysis of VOCs.

As previously noted, remedial injection activities were completed at Sites 5 and 10 following the completion of the Fall 2022 sampling/monitoring event to address the remaining CVOC concentrations in the overburden and shallow bedrock groundwater. Those activities involved the in-situ injection of approximately 3,140 gallons of ABC-Olé solution (including approximately 720 pounds of ABC-Olé) via 13 overburden DPT points adjacent to wells MW10-7 (five points) and MW10-10D (eight points).

5.2 Groundwater and Surface Water Data

5.2.1 Groundwater Elevations and Flow Direction

The groundwater elevation data collected on 6 June 2022 (Spring event) and 24 October 2022 (Fall event) were used to develop groundwater contours for the overburden and bedrock water bearing units. The monitoring/sampling locations, water level elevations and associated contours are presented on Figures 5-2 (overburden), 5-4 (shallow bedrock), and 5-6 (deep bedrock) for the Spring 2022 monitoring event and Figures 5-3 (overburden), 5-5 (shallow bedrock) and 5-7 (deep bedrock) for the Fall 2022 monitoring event. Additional information regarding the groundwater contours and flow gradients are presented in the following sections.

5.2.1.1 Overburden Groundwater and Surface Water

Historically, the direction for overburden groundwater flow at Site 10 is predominantly south toward Cayuga Creek; however, overburden groundwater on the western portion of the Site flows west toward the drainage ditch. The magnitude of the horizontal hydraulic gradient at Site 10 has exhibited localized variability ranging from 0.5 to 2.6 percent, especially in the vicinity of pumping well PW10-1 and the groundwater collection trench when the GWTP was operational.

The Spring 2022 overburden groundwater elevations and contours are presented on Figure 5-2 and the Fall 2022 overburden groundwater elevations and contours are presented on Figure 5-3. The overburden contours for both events indicate groundwater flow is predominantly south/southeast toward Cayuga Creek. Consistent with prior measurements, the average overburden horizontal gradient was approximately 2.0 percent during the Spring 2022 event but was less than one percent during the Fall 2022 event.

Finally, comparisons of the surface water elevations at location SW10-5 to the groundwater elevations at nearby well MW10-3 and the surface water elevations at locations SW10-6 and/or SW10-7 to the groundwater elevations at nearby piezometer PZ10-7 were performed to determine if the surface water bodies adjacent to Site 10 were in gaining or losing conditions during the Spring and Fall 2022 monitoring events. The surface water elevation at location SW10-5 was approximately 0.7 feet lower than the groundwater elevation at well MW10-3 and the surface water elevation at location SW10-6 was approximately 2.3 feet lower than the groundwater elevation at piezometer PZ10-7, indicating a gaining condition for the drainage ditch during the Spring 2022 event. However, the surface water elevation at locations SW10-7 was approximately 4.7 feet higher than the groundwater elevation at piezometer PZ10-7, indicating a losing condition for Cayuga Creek during the Spring 2022 event. The surface water elevation at location SW10-5 was approximately 1.2 feet higher than the groundwater elevation at well MW10-3 and the surface water elevation at location SW10-7 was approximately 1.9 feet higher than the groundwater elevation at piezometer PZ10-7, indicated a losing condition for both the drainage ditch and Cayuga Creek during the Fall 2022 event.

5.2.1.2 Bedrock Groundwater

Bedrock groundwater flow at Site 10 has historically been to the south-southeast, consistent with regional groundwater flow. The average horizontal gradient across the site was also noted as locally variable and increasing with proximity to well MW10-10D.

The Spring 2022 shallow bedrock groundwater elevations and contours are presented on Figure 5-4 and the Fall 2022 shallow bedrock groundwater elevations and contours are presented on Figure 5-5. Shallow bedrock groundwater elevations at Site 10 were highest in well MW10-10D during the Spring and Fall 2022 monitoring events, with radial groundwater flow away from this well. However, consistent with historical observations, the predominant direction of shallow bedrock groundwater flow was to the south/southeast during both monitoring events. The average shallow bedrock horizontal gradient was approximately 5.1 percent during the Spring 2022 event and approximately 4.0 percent during the Fall 2022 event.

Finally, the screened intervals for the five deep bedrock wells located within Site 10 (MW10-1EA, MW10-2E, MW10-3E, MW10-4E, and MW10-1F) are sufficiently similar to enable development of the deep bedrock groundwater contour maps presented on Figure 5-6 (Spring 2022 event) and Figure 5-7 (Fall 2022 event). The deep bedrock groundwater contours indicate that the groundwater flow in this unit is predominantly to the south/southwest during both monitoring events. The magnitude of the deep bedrock horizontal gradient was very low (less than one percent) during both events.

5.2.1.3 Vertical Gradients

A comparison of groundwater elevations for overburden, shallow bedrock, and deep bedrock wells and piezometer indicated that the groundwater elevation in the shallow bedrock monitoring wells was greater than the groundwater elevations in nearby overburden and deep bedrock monitoring wells during the Spring 2022 event. This was evident when comparing the groundwater elevations at overburden well MW10-6 (583.14 feet amsl), shallow bedrock well MW10-4D (584.16 feet amsl) and deep bedrock well MW10-4E (583.20 feet amsl). However, comparison of the Fall 2022 groundwater elevations indicated an upward vertical gradient as the groundwater elevation in deep bedrock monitoring well MW10-4E (582.97 feet amsl) was greater than the groundwater elevations in overburden well MW10-6 (579.56 feet amsl) and shallow bedrock monitoring well, MW10-4D (581.21 feet amsl). Similar conditions were noted when comparing the groundwater elevations at

PW10-2 (overburden)/MW10-1DA (shallow bedrock)/MW10-1EA (deep bedrock) and PZ10-7 (overburden)/ MW10-9D (shallow bedrock)/MW10-2E (deep bedrock). Based on these observations, it can be concluded that an overall upward vertical hydraulic gradient from bedrock to overburden was present at Site 10 during both the Spring and Fall 2022 monitoring events.

5.2.2 Groundwater Analytical Results

Groundwater samples were collected from two overburden wells and one piezometer (MW10-3, MW10-7, and PZ10-7) and two pumping wells (PW10-1 and PW10-2) during the Spring 2022 sampling event. Groundwater samples were collected from six shallow bedrock wells (MW10-1DA, MW10-3D, MW10-4D, MW10-4E, MW10-9D, and MW10-10D) and two pumping wells (PW10-1 and PW10-2) during the Fall 2022 sampling event. All samples from both events were submitted for analysis of VOCs. The groundwater analytical data associated with these samples are presented in Table 5-1 and on Figures 5-8 (Spring 2022 event) and 5-9 (Fall 2022 event). The laboratory analytical data reports, and associated data usability and data validation reports are provided in Appendix C.

A review of the data presented in Table 5-1 and on Figures 5-8 and 5-9 indicates the following 11 VOCs were detected during at least one of the 2022 sampling events:

- 1,1-Dichloroethene was detected in one well (MW10-7) during the Spring 2022 sampling event at an estimated concentration of 0.66 µg/L, which is less than the GPS of 5 µg/L. This constituent was not detected in any well during the Fall 2022 sampling event.
- 2-Hexanone (MBK) was not detected in any well/piezometer during the Spring 2022 sampling event. However, this constituent was detected in one well (MW10-10D) during the Fall 2022 sampling event at an estimated concentration of 819 µg/L, which is greater than the GPS of 50 µg/L.
- Acetone was detected in four wells and one piezometer (MW10-3, MW10-7, PW10-1, PW10-2, and PZ10-7) during the Spring 2022 sampling event at concentrations ranging from 15.8 µg/L to 24.0 µg/L, which are all less than the GPS of 50 µg/L. This constituent was not detected in any wells during the Fall 2022 sampling event.
- Benzene was detected one well (PW10-2) during the Spring 2022 sampling event at an estimated concentration of 0.48 µg/L, which is less than the GPS of 1 µg/L. This constituent was also detected in three wells (MW10-1DA, MW10-4D, and PW10-2) during the Fall 2022 sampling event at concentrations ranging from of 1.3 µg/L to 3.2 µg/L, all of which are greater than the GPS of 1 µg/L. The maximum concentration was detected in well MW10-1DA.
- Chloroform was not detected in any well/piezometer during the Spring 2022 sampling event. However, this constituent was detected in one well (MW10-10D) during the Fall 2022 sampling event at an estimated concentration of 29.2 µg/L, which is greater than the GPS of 7 µg/L. This result was also qualified due to laboratory method blank contamination.
- Cis-1,2-DCE was detected in three wells (MW10-3, MW10-7, and PW10-1) during the Spring 2022 sampling event at concentrations ranging from 0.60 µg/L (estimated) to 32.9 µg/L. However, only MW10-7 exceeded the GPS of 5 µg/L. This constituent was also detected in six wells (MW10-1DA, MW10-4D, MW10-4E, MW10-9D, MW10-10D, and PW10-1) during the Fall 2022 sampling event at concentrations ranging from 1.1 µg/L to 534 µg/L. Further, this constituent was detected in three wells (MW10-4E, MW10-9D, and MW10-

10D) at concentrations greater than the GPS of 5 µg/L (ranging from 6.6 µg/L to 534 µg/L). The maximum concentration was detected in well MW10-10D.

- Iodomethane was not detected in any well/piezometer during the Spring 2022 sampling event. However, this constituent was detected in one well (MW10-3D) during the Fall 2022 sampling event at an estimated concentration of 0.96 µg/L, which is less than the GPS of 5 µg/L. This result was also qualified due to laboratory method blank and trip blank contamination.
- Toluene was not detected in any well/piezometer during the Spring 2022 sampling event. However, this constituent was detected in one well (MW10-10D) during the Fall 2022 sampling event at an estimated concentration of 16.5 µg/L, which is greater than the GPS of 5 µg/L.
- Trans-1,2-dichloroethene was detected in one well (MW10-7) during the Spring 2022 sampling event at a concentration of 2.1 µg/L, which is less than the GPS of 5 µg/L. This constituent was not detected in any well during the Fall 2022 sampling event.
- TCE was detected in one well (MW10-7) during the Spring 2022 sampling event at a concentration of 1.7 µg/L, which is less than the GPS of 5 µg/L. This constituent was also detected in one well (MW10-10D) during the Fall 2022 sampling event at a concentration of 24.8 µg/L, which is greater than the GPS of 5 µg/L.
- VC was detected in two wells (MW10-7 and PW10-1) during the Spring 2022 sampling event at concentrations ranging from 2.4 µg/L to 8.3 µg/L, both of which are greater than the GPS of 2 µg/L. This constituent was also detected in six wells (MW10-1DA, MW10-4D, MW10-4E, MW10-9D, MW10-10D, and PW10-1) during the Fall 2022 sampling event at concentrations ranging from 0.55 µg/L (estimated) to 42.2 µg/L. Further, this constituent was detected in four wells (MW10-1DA, MW10-4D, MW10-9D, and MW10-10D) at concentrations greater than the GPS of 2 µg/L (ranging from 4.3 µg/L to 42.2 µg/L). The maximum concentration was detected in well MW10-10D.

5.2.3 Surface Water Analytical Results

Surface water samples were collected at two locations within Site 10 (SW10-7 and SW10-8) during the Spring 2022 sampling event and three locations (SW10-5, SW10-7, and SW10-8) during the Fall 2022 sampling events to determine whether site-related COCs have entered Cayuga Creek either directly or via the drainage ditch on the west side of the Site. Surface water samples were not collected from locations SW10-5 and SW10-6 during the Spring 2022 event or SW10-6 during the Fall 2022 event as those locations were dry at the time of sample collection. Surface water samples were also collected at one location downstream of Site 10 (SW99-10) during the Spring and Fall 2022 sampling events. The surface water analytical data for Site 10 are presented in Table 5-2 and the sampling locations are illustrated on Figures 5-8 (Spring 2022) and 5-9 (Fall 2022). Readings of pH, temperature, and conductivity were recorded at the time of sample collection and those data are presented in Table A-2 (Appendix A). The laboratory analytical data reports, and associated data usability and data validation reports are provided in Appendix C.

A review of the data presented in Table 5-2 and on Figures 5-8 and 5-9 indicates that the following two VOCs were detected during at least one of the 2022 sampling events:

- Chloroform was not detected at any location during the Spring 2022 sampling event. However, this constituent was detected at one location (SW10-8) during the Fall 2022 sampling event at an estimated concentration of 0.79 µg/L. This result was also qualified due to trip blank contamination.

- Iodomethane was not detected at any location during the Spring 2022 sampling event. However, this constituent was detected at two locations (SW10-5 and SW99-10) during the Fall 2022 sampling event at estimated concentrations ranging from 0.78 µg/L to 1.1 µg/L. These results were also qualified due to laboratory method blank and/or trip blank contamination.

5.3 Data Evaluation and Recommendations

The data from the Spring and Fall 2022 sampling event were combined with the data from the six or seven previous sampling events (depending upon the sampling frequency of each well/piezometer) for each Site 10 IWGP well/piezometer (i.e., MW10-1DA, MW10-3D, MW10-4D, MW10-4E, MW10-7, MW10-9D, MW10-10D, PW10-1, PW10-2, and PZ10-7) to evaluate data trends and develop appropriate recommendations. A review of the data tables and trend graphs presented in Appendix E indicates the following:

- Total VOC concentrations in 2022 were within the range of detected concentrations over the prior six or seven sampling events in seven Site 10 wells (MW10-3D, MW10-4D, MW10-4E, MW10-7, MW10-9D, MW10-10D, and PW10-1). The total VOC concentrations in 2022 for wells MW10-1DA, MW10-3, PW10-2, and PZ10-7 were greater than the prior six or seven sampling events; however, the following should be noted:
  - The total VOC concentration at well MW10-1DA in November 2022 (17.2 µg/L) was only slightly greater than the highest concentration observed over the prior seven sampling events (14.15 µg/L in December 2020).
  - Although the total VOC concentration at well MW10-3 in June 2022 (22.8 µg/L) was greater than the highest concentration observed over the prior seven sampling events (1.78 µg/L in June 2017), no individual constituents exceeded the corresponding GPS in June 2022 (or over last eight sampling events).
  - Although the total VOC concentration at well PW10-2 in June 2022 (20.68 µg/L) was greater than the highest concentration observed over the prior six sampling events (9.6 µg/L in July 2021), no individual constituents exceeded the corresponding GPS in June 2022.
  - Although the total VOC concentration at piezometer PZ10-7 in June 2022 (24 µg/L) was greater than the highest concentration observed over the prior seven sampling events (4.9 µg/L in July 2021), no individual constituents exceeded the corresponding GPS in June 2022 (or over last eight sampling events).
- No VOCs have been detected at concentrations greater than the GPS at wells MW10-3 and MW10-3D or piezometer PZ10-7 during any of the last eight sampling events. Further, benzene is the only constituent detected at concentrations greater than the corresponding GPS in four of last eight sampling events at well PW10-2.
- Cis-1,2-DCE and VC were the two VOCs detected most frequently at concentrations greater than the corresponding GPS in Site 10 groundwater over the last eight sampling events. However, certain other constituents were also frequently detected at concentrations greater than the corresponding GPS in certain wells (i.e., benzene in well MW10-1DA; TCE in well MW10-7; and benzene, toluene, trans-1,2-DCE and TCE in well MW10-10D). The presence of cis-1,2-DCE and VC is indicative of attenuation of CVOCs (including by reductive dichlorination) following the 2015 and 2018 injection events.

- Wells MW10-7 and MW10-10D continue to demonstrate the highest total VOC concentrations. As previously indicated, remedial injection activities were completed at Site 10 following the November 2022 sampling event. Those activities involved the injection of approximately 1,205 gallons of ABC-Olé solution (including approximately 275 pounds of ABC-Olé) via five DPT points adjacent to well MW10-7 and approximately 1,935 gallons of ABC-Olé solution (including approximately 445 pounds of ABC-Olé) via eight DPT points adjacent to well MW10-10D.
- Benzene, toluene, ethylbenzene, and total xylenes (primarily benzene) have been detected in Site 10 groundwater (most notably in wells MW10-1DA, MW10-10D, and PW10-2); however, these detections represent a small contribution to the total VOC concentrations. Further, benzene groundwater concentrations in well MW10-10D have declined over time from a high of 570 µg/L in 1998 to less than the GPS of 1 µg/L in November 2022. The presence of petroleum hydrocarbons and chlorinated solvents is consistent with the former use of Site 10 as a fire training area.
- Although the trend graphs indicate some variability, the total VOC concentrations appear to be stable or declining in six Site 10 wells (MW10-1DA, MW10-3, MW10-3D, MW10-4D, MW10-4E, and PW10-1). The total VOC concentrations are trending higher in four wells (MW10-7, MW10-9D, MW10-10D, and PW10-2) and one piezometer (PZ10-7); however, as previously noted, all detected constituents in piezometer PZ10-7 remain at concentrations less than the GPS over the last eight sampling events and benzene has been detected at concentrations greater than the corresponding GPS at well PW10-2 in only four of the last eight events. Finally, the trend variability at well MW10-7 may be attributed to seasonal variation as the highest concentrations over the last eight sampling events were observed in Fall 2018 and Fall 2020.
- The 2022 surface water data for locations SW10-5, SW10-7, SW10-8, and downstream location SW99-10 indicate that the groundwater impacts observed in wells located within Site 10 are not impacting the surface water bodies adjacent to Site 10. Further, no VOCs were detected at locations SW10-7 (the furthest downstream sampling location at Site 10) during the Spring or Fall 2022 sampling events and only iodomethane (1.1 µg/L) was detected at location SW99-10 (downstream of Site 10) during the Fall 2022 sampling event.
- As noted in prior reports, the groundwater trend data has shown that the injections have been successful in mitigating the high CVOC concentrations in the former fire training area, which also mitigates the risk of CVOCs in groundwater discharging to surface water. As a result, it was previously concluded that the pumping systems are no longer needed to remove CVOC mass from the former source area or to mitigate the risk associated with groundwater containing VOCs at concentrations greater than the GPS discharging to Cayuga Creek.

The following recommendations are made based on the data evaluation provided above:

- It is recommended that the pumping systems in PW10-1 and PW10-2 and the GWTS remain off as an additional remedial injection was performed at Site 10 following the Fall 2022 sampling/monitoring event.
- Maintain the sampling locations and frequencies specified in the SMP (EA, 2021). Specifically, annual sampling will be performed in the Spring at wells MW10-3, MW10-7 and PZ10-7, annual sampling will be performed in the Fall at wells MW10-1DA, MW10-3D, MW10-4D, MW10-4E, MW10-9D, and MW10-10D, and semi-annual sampling will be performed at wells PW10-1 and PW10-2.
- Continue semi-annual sampling at four surface water sampling locations within Site 10 and one surface water sampling location downstream of Site 10, including: SW10-5, SW10-6, SW10-7, SW10-8, and SW99-10.

- Per Table 2-2 of the Remedial Injection Work Plan, quarterly performance monitoring will also be performed at wells MW10-1DA, MW10-7, MW10-10D, MW10-11D, and PW10-1 for VOCs, total organic carbon, dissolved gases, and field parameters to monitor the effectiveness of the remedial injections. The second and third quarterly performance monitoring events will be performed concurrently with the Spring and Fall 2023 monitoring/sampling events under the IWGP.

6 Site 13 (ST010) – 4,000 Gallon UST

Site 13 was a former UST that was located near the southeast corner of Building 904 (Figure 6-1). The storage tank was originally used to store gasoline, but was also used to store general shop wastes, including solvents, oils, and automotive fluids between 1971 and 1986. In 1986, the UST was emptied and removed. Subsequent groundwater monitoring performed at the Site indicated that contaminant migration had occurred. As a result, a RCRA Facility Investigation and Corrective Measures Study were completed. A CMI was subsequently performed in 1998 to reduce contaminant concentrations in groundwater and prevent further vertical or offsite migration. That CMI included a groundwater extraction system consisting of two shallow bedrock pumping wells that discharged directly to the sanitary sewer. In response to decreasing CVOC concentrations, pump operation was modified to a 3-month on/3-month off cycle in 2004. As CVOC concentrations continued to decrease under "steady state" pumping conditions to below the alternative termination criteria specified in the SMP (EA 2021), groundwater extraction was suspended at one of the pumping wells (PW13-4D) on 11 February 2015. In August 2015, an injection of EZVI was conducted at the site to address remaining CVOC contamination in groundwater. Groundwater extraction was suspended at the other pumping well (PW13-1) to implement another EZVI RA in 2018. Groundwater COC concentrations have greatly decreased across the Site following these RAs. There is no surface water at Site 13; therefore, discharge of groundwater impacts to surface water is not a concern at this site further reducing the risk to human health and the environment posed by groundwater at Site 13.

The existing IWGP monitoring/sampling network at Site 13 consists of 21 wells/piezometers, including eight screened in the overburden, 12 screened in the shallow bedrock, and one screened in the deep bedrock (Figure 6-1). The current scope of elevation monitoring under the IWGP involves the collection of groundwater elevations from all 21 wells/piezometers in the network, while the current sampling scope at Site 13 under the IWGP involves semi-annual sampling of four shallow bedrock wells (MW13-4D, MW13-5D, PW13-1, and PW13-4D).

6.1 2022 Field Activities

Groundwater elevations were measured at all 21 wells/piezometers on 7 June 2022 (Spring event). Groundwater elevations were also measured at all 19 wells/piezometers on 25 October 2022 (Fall event). Elevation measurements were not recorded at piezometer PZ13-1 (piezometer was dry) or PZ13-3D (inaccessible due to construction trenching) during the Fall 2022 monitoring event. PDBs were deployed in four shallow bedrock wells (MW13-4D, MW13-5D, PW13-1, and PW13-4D) on 8 June 2022 (Spring event) and 25 October 2022 (Fall event). PDB retrieval and sample collection was performed on 29 June 2022 (Spring event) and 7 November 2022 (Fall event), with all collected samples submitted to ALS for analysis of VOCs.

6.2 Groundwater Data

6.2.1 Groundwater Elevations and Flow Direction

The groundwater elevation data collected on 7 June 2022 (Spring event) and 25 October 2022 (Fall event) were used to develop groundwater contours for the overburden and bedrock water bearing units. The monitoring/sampling locations, water level elevations and associated contours are presented on Figures 6-2

(overburden) and 6-4 (shallow bedrock) for the Spring 2022 monitoring event and Figures 6-3 (overburden) and 6-5 (shallow bedrock) for the Fall 2022 monitoring event. Additional information regarding the groundwater contours and flow gradients are presented in the following sections.

6.2.1.1 Overburden Groundwater

Historically, overburden groundwater at Site 13 generally flows toward the east, with seasonal variations between northeasterly and southeasterly flow. The magnitude of the horizontal gradient historically varied at Site 13 and was observed to be relatively steep on the west side of the site and less steep on the east side when the pumping wells were in operation. A more gradual horizontal gradient was noted at Site 13 following the suspension of pumping well operation.

The Spring 2022 overburden groundwater elevations and contours are presented on Figure 6-2 and the Fall 2022 overburden groundwater elevations and contours are presented on Figure 6-3. The groundwater contours indicate that groundwater flow is to the northeast during the Spring and Fall 2022 monitoring events. The average overburden horizontal gradient was approximately 1.0 percent during the Spring 2022 event and approximately 1.7 percent during the Fall 2022 event.

6.2.1.2 Bedrock Groundwater

Bedrock groundwater flow at Site 13 was historically variable due to a variety of influences, including existing buildings, pavement, seasonal fluctuations in the water table, and operation of the two shallow bedrock pumping wells (PW13-1 and PW13-4D). The average horizontal gradient across the site varied greatly due to the influence of the pumping wells. Following the suspension of pumping well operations, the previously observed cones of depression are no longer present, shallow bedrock groundwater flow is predominantly toward the east, and the horizontal gradient is low in magnitude.

The Spring 2022 bedrock groundwater elevations and contours are presented on Figure 6-4 and the Fall 2022 bedrock groundwater elevations and contours are presented on Figure 6-5. The groundwater contours indicate that groundwater flow had more of an easterly component during both monitoring events. The average shallow bedrock horizontal gradient was less than one percent during the Spring 2022 event and approximately 1.7 percent during the Fall 2022 event, which are consistent with previous measurements. Finally, a deep bedrock groundwater contour map was not prepared as MW13-1E is the only deep bedrock monitoring well located within Site 13.

6.2.1.3 Vertical Gradients

A comparison of the groundwater elevations for overburden, shallow bedrock, and deep bedrock wells/piezometers indicates that there was a downward vertical gradient from overburden to shallow bedrock to deep bedrock for both the Spring and Fall 2022 monitoring events. This is evident when comparing the Spring 2022 groundwater elevations for three monitoring wells (one screened in each zone): overburden well MW13-3 (591.96 feet amsl), shallow bedrock well MW13-5D (591.46 feet amsl), and deep bedrock well MW13-1E (590.89 feet amsl). Comparison of the Fall 2022 groundwater elevations in the same wells also indicated a downward vertical gradient: MW13-3 (590.29 feet amsl), MW13-5D (589.58 feet amsl), and MW13-1E (582.93 feet amsl). These results are consistent with historical vertical gradients observed at the site.

6.2.2 Groundwater Analytical Results

Groundwater samples were collected from four wells located within Site 13 (MW13-4D, MW13-5D, PW13-1, and PW13-4D) during the Spring and Fall 2022 sampling/events and submitted for analysis of VOCs. The groundwater analytical data associated with these samples are presented in Table 6-1 and on Figures 6-6 (Spring 2022 event) and 6-7 (Fall 2022 event). The laboratory analytical data reports, and associated data usability and data validation reports are provided in Appendix C.

A review of the data presented in Table 6-1 and on Figures 6-6 and 6-7 indicates the following four VOCs were detected during at least one of the 2022 sampling events:

- Cis-1,2-DCE was detected in all four wells during the Spring 2022 sampling event at concentrations ranging from 3.7 µg/L to 36 µg/L. Further, this constituent was detected in three wells (MW13-4D, MW13-5D, and PW13-1) at concentrations greater than the GPS of 5 µg/L (ranging from 10.1 µg/L to 36 µg/L). The maximum concentration was detected in well MW13-5D. This constituent was also detected in all four wells during the Fall 2022 sampling event at concentrations ranging from 0.85 µg/L (estimated) to 21.6 µg/L. Further, this constituent was detected in two wells (MW13-5D and PW13-4D) at concentrations greater than the GPS of 5 µg/L (ranging from 6.7 µg/L to 21.6 µg/L). The maximum concentration was detected in well MW13-5D.
- Trans-1,2-DCE was detected in two wells (MW13-5D and PW13-1) during the Spring 2022 sampling event at estimated concentrations of 0.39 µg/L to 0.45 µg/L, which are both less than the GPS of 5 µg/L. This constituent was not detected during the Fall 2022 sampling event.
- TCE was detected in one well (PW13-1) during the Spring 2022 sampling event at an estimated concentration of 0.97 µg/L, which is less than the GPS of 5 µg/L. This constituent was not detected during the Fall 2022 sampling event.
- VC was detected in all three wells (MW13-4D, MW13-5D, and PW13-1) during the Spring 2022 sampling event at concentrations ranging from 1.3 µg/L to 5.7 µg/L. Further, this constituent was detected in two wells (MW13-4D and PW13-1) at concentrations greater than the GPS of 2 µg/L (ranging from 4.7 µg/L to 5.7 µg/L). The maximum concentration was detected in well MW13-4D. This constituent was also detected in two wells (MW13-5D and PW13-4D) during the Fall 2022 sampling event at concentrations ranging from 0.52 µg/L (estimated) to 1.0 µg/L, both of which are less than the GPS of 2 µg/L.

6.3 Data Evaluation and Recommendations

The data from the Spring and Fall 2022 sampling events were combined with the data from the six previous sampling events for each of the Site 13 IWGP wells (i.e., MW13-4D, MW13-5D, PW13-1, and P13-4D) to evaluate data trends and develop appropriate recommendations. A review of the data tables and trend graphs included in Appendix E indicates the following:

- Total VOC concentrations in 2022 were within the range of detected concentrations over the prior six sampling events in each of the Site 13 wells.

- Cis-1,2-DCE and VC are the two VOCs detected most frequently at concentrations greater than the corresponding GPS in Site 13 groundwater over the last eight sampling events. Further, TCE was detected at a concentration greater than the corresponding GPS in only one well (MW13-5D) during one of the last eight sampling events.
- While the trend graphs indicate variability in certain wells at Site 13, the total VOC concentrations appear to be stable or declining in wells MW13-4D, MW13-5D, and PW13-1. The total VOC concentrations appear to be trending higher for well PW13-4D; however, the total VOC concentrations in this well are less than 10 µg/L over the last eight sampling events, with cis-1,2-DCE the only VOC detected at a concentration greater than the corresponding GPS at this well in only two of last eight events.

The following recommendation is made based on the data evaluation provided above:

- Maintain the current semi-annual sampling frequency for wells MW13-4D, MW13-5D, PW13-1, and PW13-4D.

7 Background Wells - Site 1 (ST011) and Site 8 (DS002)

Annual sampling of background wells is required under the SMP (EA 2021). Accordingly, samples were collected from shallow bedrock monitoring wells MW8-11D during the Spring 2022 sampling event and MW1-1DA during the Fall 2022 sampling event (see Figure 2-1 for locations). These wells are maintained for groundwater level measurements and sampling as needed until the active IRP sites are closed. Overburden and deep bedrock background wells are no longer sampled.

PDB retrieval and sample collection was performed at well MW8-11D on 29 June 2022 (Spring event) and well MW1-1DA 7 November 2022 (Fall event). The groundwater analytical data presented in Table 7-1 indicate that no VOCs were detected in either well. The laboratory analytical data reports, and associated data usability and data validation reports are provided in Appendix C.

8 Engineering and Institutional Controls Certification

Section 3 of the SMP (EA 2021) provides the Engineering and Institutional Controls Plan for NFARS. As indicated therein, an installation-wide engineering control consisting of secured perimeter fencing exists and controlled entry points exists at NFARS. Section 3.2 of that document also lists the site-specific engineering controls at the following Sites:

- Site 2 – Additional fencing, locked gate, and personnel training regarding nature of contamination present at the Site.
- Site 3 – Landfill cover system and groundwater treatment curtain/collection trench.
- Site 5 – Additional fencing, locked gate, and personnel training regarding nature of contamination present at the Site.
- Site 6 – Additional fencing, locked gate, and personnel training regarding nature of contamination present at the Site.
- Site 7 – Additional fencing, locked gate, and personnel training regarding nature of contamination present at the Site.
- Site 10 – Groundwater treatment trailer, additional fencing, locked gate, and personnel training regarding nature of contamination present at the Site.
- Site 13 – Additional fencing, locked gate, and personnel training regarding nature of contamination present at the Site.

The Air Force is responsible for maintaining the installation fencing, as well as the fencing, locked gates, and providing personnel training as needed for the above-referenced sites. As noted in Section 3, two of the pumping wells previously installed at Site 3 were abandoned following the installation of the treatment curtain/collection trench and the third pumping well was shut down in 2011. Similarly, the groundwater treatment system at Site 10 was shut down in 2015, as described in Section 6. Therefore, the only active engineering control that requires inspection is the landfill cover system. Information regarding the inspection of the landfill cover system is provided in Section 2.7.

Section 3.3 of the SMP (EA 2021) specifies the following institutional controls for NFARS:

- Compliance with an Environmental Easement/Notice (to be included in a future version of the SMP) to: (1) implement, maintain and monitor EC systems; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and (3) limit the use and development of the site to commercial and restricted residential uses only.
- Compliance with existing Installation-Wide Dig Permit program managed by the 914th Airlift Wing Mission Support Group/Civil Engineering-Environmental.
- Review of dig permits for all intrusive work completed at NFARS for potential interactions with sites.
- Operation and maintenance for all ECs specified in the SMP.
- Annual inspection of ECs at NFARS.

- Groundwater monitoring as specified in the SMP.
- Reporting of data and information pertinent to site management as specified in the SMP.

Section 3.3 of the SMP (EA 2021) also specifies the following site restrictions for NFARS:

- The land within NFARS may only be subject to commercial/industrial use, as long as the long-term ECs and ICs specified in the SMP are employed.
- The land within NFARS may not be used for a higher level of use, such as unrestricted residential use without additional remediation and amendment of an Environmental Easement/Notice, as approved by the NYSDEC.
- All future activities at NFARS that will potentially disturb remaining contaminated material must be conducted in accordance with the requirements specified in the SMP.
- The use of the groundwater for a source of potable or process water is restricted without treatment rendering it safe for intended use.

Per Section 3.3 of the SMP (EA 2021), the following certification is provided in accordance with NYSDEC DER-10, Chapter 6.3(d):

For each engineering or institutional control identified for the site, I certify that each of the following statements are true:

(a) controls employed at the Installation are unchanged from the previous certification or any changes to the controls were approved by the NYSDEC;

(b) nothing has occurred at the site that impairs the ability of the controls to protect public health and environment;

(c) nothing has occurred at the site that would constitute a violation or failure to comply with the SMP;

(d) access to the site will continue to be provided to NYSDEC to evaluate the continued maintenance of any and all controls.

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Date: 2024.03.19 12:26:44 -04'00'

Lindsay Mairs
Remedial Program Manager

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Tables

Table 1-1
Contaminants of Concern Detected at Concentrations that Exceeded Groundwater Protection Standards at NFARS SWMUs
2022 Annual Comprehensive Sampling/Monitoring Report
Installation Wide Groundwater Monitoring Program
Niagara Falls Air Reserve Station, New York

Parameter	CAS No.	Groundwater Protection Standard (ug/L)
1,1,-Dichloroethene	75-35-4	5
2-Butanone (Methyl Ethyl Ketone)	78-93-3	50
2-Hexanone (Methyl N-Butyl Ketone)	591-78-6	50
Acetone	67-64-1	50
Benzene	71-43-2	1
Carbon Tetrachloride	56-23-5	5
Chloroethane	75-00-3	5
Chloroform	67-66-3	7
Cis-1,2-Dichloroethene	156-59-2	5
Ethylbenzene	100-41-4	5
Iodomethane	74-88-4	5
Toluene	108-88-3	5
Trans-1,2-Dichloroethene	156-60-5	5
Trichloroethene	79-01-6	5
Vinyl Chloride	75-01-6	2
Xylenes (total)	1330-20-7	5

Notes:
CAS = Chemical Abstracts Service
No. = Number
µg/L = Microgram(s) per liter

Table 2-1
Summary of Groundwater and Surface Water Elevation Measurement Locations
2022 Annual Comprehensive Sampling/Monitoring Report
Installation Wide Groundwater Monitoring Program
Niagara Falls Air Reserve Station, New York

Measurement Locations					
Wells/Piezometers	PZ3-1D	MW5-4	MW8-4D	MW10-10D	PZ13-1
Former Site 1	PZ3-2	MW5-4D	MW8-5A	MW10-11	PZ13-1D
MW1-1DA	PZ3-2D	MW5-5A	MW8-8	MW10-11D	PZ13-2
MW1-7A	PZ3-3	MW5-5D	MW8-10D	MW10-12	PZ13-2D
Former Site 2	PZ3-3D	MW5-6	MW8-11	MW10-12D	PZ13-3D
MPL2-1A	PZ3-4	MW5-6D	MW8-11D	MW10-13	PZ13-4
MW2-1DA	PZ3-4D	MW5-7	MW8-11E	MW10-13D	PZ13-4D
Site 3	PZ3-5	MW5-7D	**Site 10**	PW10-1	**Surface Water**
MW3-1A	PZ3-5D	MW5-8	MW10-1DA	PW10-2	**Site 3**
MW3-1DA	PZ3-6	MW5-8D	MW10-1EA	PZ10-7	SW3-2
MW3-1E	PZ3-6D	RW5-1	MW10-1F	**Site 13**	SW3-3
MW3-2	PZ3-7D	RW5-2	MW10-2	MW13-1	**Site 8**
MW3-2DA	PZ3-8D	RW5-3	MW10-2E	MW13-1D	SW8-8
MW3-3A	PZ3-9	RW5-4	MW10-3	MW13-1E	SW8-9
MW3-3DA	PZ3-9D	**Former Site 6**	MW10-3D	MW13-2D	**Site 10**
MW3-4DA	**Site 5**	MPL6-2A	MW10-3E	MW13-3	SW10-5
MW3-5D	CH5-01	MPL6-3	MW10-4	MW13-3D	SW10-6
MW3-6A	CH5-02	**Site 8**	MW10-4D	MW13-4	SW10-7
MW3-6D	CH5-03	CH8-01	MW10-4E	MW13-4D	**Downstream**
MW3-7	CH5-04	MW8-1	MW10-5D	MW13-5A	SW99-10
MW3-8	MW5-1A	MW8-1E	MW10-6	MW13-5D	SW99-14
MW3-8D	MW5-1DA	MW8-2D	MW10-7	MW13-6	
MW3-8E	MW5-1E	MW8-3	MW10-8	MW13-6D	
PW3-3A	MW5-2D	MW8-3DA	MW10-8D	PW13-1	
PZ3-1	MW5-3D	MW8-4A	MW10-9D	PW13-4D	

Notes:
CH = Core hole
MW = Monitoring well
PW = Pumping well
PZ = Piezometer
RW = Short-term recovery well
SW = Surface water

Table 2-2
Summary of Groundwater Sampling Locations – Spring and Fall 2022
2022 Annual Comprehensive Sampling/Monitoring Report
Installation Wide Groundwater Monitoring Program
Niagara Falls Air Reserve Station, New York

Well ID	IWGP Sampling Frequency	IWGP Sample Analyses	Field QC Samples[(a)]
Background Well			
MW1-1DA	Annual (Fall)	VOCs	--
MW8-11D	Annual (Spring)		--
Site 3			
MW-3-3DA	Annual (Spring)	VOCs	--
MW3-4DA			--
PW3-3A			MS/MSD (Spring)
PZ3-6D			--
PZ3-7D			Field Duplicate (Spring)
PZ3-8D			--
Site 5			
MW5-1DA	Semi-Annual	VOCs	MS/MSD (Spring)
MW5-5D			--
MW5-6			Field Duplicate (Spring)
RW5-1			MS/MSD (Fall); Field Duplicate (Fall)
RW5-2			--
RW5-4			--
Site 10			
MW10-1DA	Annual - Fall	VOCs	--
MW10-3	Annual - Spring		--
MW10-3D	Annual - Fall		--
MW10-4D			--
MW10-4E			--
MW10-7	Annual - Spring		--
MW10-9D	Annual - Fall		--
MW10-10D			--
PW10-1	Semi-Annual		--
PW10-2			--
PZ10-7	Annual - Spring		--
Site 13			
MW13-4D	Semi-Annual	VOCs	--
MW13-5D			--
PW13-1			--
PW13-4D			--

Notes:
(a) = A trip blank was also shipped with the field samples.
IWGP = Installation-Wide Groundwater Program
VOC = Volatile organic compound (U.S. Environmental Protection Agency Method 8260C)
MS/MSD = Matrix spike/matrix spike duplicate

Table 2-3
Summary of Surface Water Sampling Locations - Spring and Fall 2022
2022 Annual Comprehensive Sampling/Monitoring Report
Installation Wide Groundwater Monitoring Program
Niagara Falls Air Reserve Station, New York

Location	IWGP Sampling Frequency	Description	Reference Point	Laboratory Analysis	Field QA/QC Samples[a]
SW3-2	Semi-Annual	Cayuga Creek as it enters the base, upstream of Site 3	Nail in wooden railroad tie	VOCs and field parameters[b]	--
SW3-3		Cayuga Creek near gravel road crossing, downstream of Site 3	East end of west gate (top edge of the bottom rail of gate over creek)	VOCs and field parameters	--
SW3-15		Cayuga Creek Adjacent to well ID PZ3-4	Top of small rock outcrop	VOCs and field parameters	--
SW10-5*		Drainage ditch upstream of fire- training pit	Top of concrete junction box	VOCs and field parameters	--
SW10-6*		Drainage ditch downstream of fire-training pit at Site 10	Top of pipe	VOCs and field parameters	--
SW10-7		Cayuga Creek downstream of Site 10 and confluence with drainage ditch	Top of south culvert pipe and cut	VOCs and field parameters	--
SW10-8		Cayuga Creek upstream of Site 10.	Top of berm at level surface	VOCs and field parameters	--
SW99-10		Cayuga Creek near taxiway A2 just before it flows off base	Top of concrete culvert	VOCs and field parameters	--

Notes:

(a) A trip blank was also shipped with the field samples.
(b) Field parameters include temperature, pH, and conductivity.
QA/QC = Quality assurance/quality control
VOC = Volatile organic compound (U.S. Environmental Protection Agency Method 8260C)
MS/MSD = Matrix spike/matrix spike duplicate
* = A sample was not collected at location SW10-5 and SW10-6 during the Spring 2022 sampling event or location SW10-6 during the Fall 2022 sampling event as those locations were dry at the time of the sampling collection.

Table 3-1
Site 3 - Summary of Detected Groundwater Analytical Results
2022 Annual Comprehensive Sampling/Monitoring Report
Installation Wide Groundwater Monitoring Program
Niagara Falls Air Reserve Station, New York

Analyte	Screening Criteria[a]	Location ID Sample Name Sample Date Parent Sample	MW3-3DA MW3-3DA-062922 6/29/2022	MW3-4DA MW3-4DA-062922 6/29/2022	PW3-3A PW3-3A-062922 6/29/2022	PZ3-6D PZ3-6D-062922 6/29/2022
Volatile Organic Compounds Detected by Method 8260C (µg/L)[b]						
Benzene	1	µg/L	< 1.0 U	< 1.0 U	**0.43 J**	< 1.0 U
Cis-1,2-Dichloroethene	5	µg/L	**5.3**	**5.1**	**40.9**	< 1.0 U
trans-1,2-Dichloroethene	5	µg/L	< 1.0 U	< 1.0 U	**0.72 J**	< 1.0 U
Trichloroethene	5	µg/L	< 1.0 U	< 1.0 U	**10.8**	< 1.0 U
Vinyl chloride	2	µg/L	**9.1**	**3.5**	**37.6**	< 1.0 U

Analyte	Screening Criteria[a]	Location ID Sample Name Sample Date Parent Sample	PZ3-7D PZ3-7D-06092022 6/29/2022	PZ3-7D DUP-062922-2 6/29/2022 PZ3-7D-062922	PZ3-8D PZ3-8D-062922 6/29/2022
Volatile Organic Compounds Detected by Method 8260C (µg/L)[b]					
Benzene	1	µg/L	< 1.0 U	< 1.0 U	< 1.0 U
Cis-1,2-Dichloroethene	5	µg/L	**1.9**	**1.9**	< 1.0 U
trans-1,2-Dichloroethene	5	µg/L	< 1.0 U	< 1.0 U	< 1.0 U
Trichloroethene	5	µg/L	< 1.0 U	< 1.0 U	< 1.0 U
Vinyl chloride	2	µg/L	< 1.0 U	< 1.0 U	< 1.0 U

Notes:
(a) New York State Department of Environmental Conservation, Technical and Operational Guidance Series Memorandum #1.1.1: Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, 1998 (with updates), Class GA Groundwater Standards and Guidance Values.
(b) Only compounds with at least one detect are presented; bold results indicate a detected value, shaded results exceed the screening criterion.
µg/L = Microgram(s) per liter
MW = Monitoring well
PW = Pumping well
PZ = Piezometer
J = Compound detected, estimated concentation
U = Compound was not detected

Table 3-2
Site 3 - Summary of Detected Surface Water Analytical Results
2022 Annual Comprehensive Sampling/Monitoring Report
Installation Wide Groundwater Monitoring Program
Niagara Falls Air Reserve Station, New York

Analyte	Location ID Sample Name Sample Date	SW3-2 SW3-2-062922 6/29/2022	SW3-2 SW3-2-20221107 11/7/2022	SW3-3 SW3-3-062922 6/29/2022	SW3-3 SW3-3-20221107 11/7/2022	SW3-15 SW3-15-062922 6/29/2022	SW3-15 SW3-15-20221107 11/7/2022
Volatile Organic Compounds Detected by Method 8260C (µg/L)[(a)]							
Chloroform	µg/L	**0.50 J**	**1.1 JB+**	**0.48 J**	**0.96 JB+**	**0.40 J**	**0.79 JB+**
Iodomethane	µg/L	< 1.0 U	**1.4 JB+**	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U

Notes:
(a) Only compounds with at least one detect are presented; bold results indicate a detected value.
µg/L = Microgram(s) per liter
SW = Surface water
B = Compound detected in trip blank
J+ = Compound detected, estimated concentration that may be biased high
U = Compound was not detected

Table 4-1
Site 5 - Summary of Detected Groundwater Analytical Results
2022 Annual Comprehensive Sampling/Monitoring Report
Installation Wide Groundwater Monitoring Program
Niagara Falls Air Reserve Station, New York

Analyte	Screening Criteria[a]	Location ID Sample Name Sample Date Parent Sample	MW5-1DA MW5-1DA-062922 6/29/2022	MW5-1DA MW5-1DA-20221107 11/7/2022	MW5-5D MW5-5D-062922 6/29/2022	MW5-5D MW5-5D-20221206 12/6/2022	MW5-6 MW5-6-062922 6/29/2022	MW5-6 DUP-062922-1 6/29/2022 MW5-6-20221107	MW5-6 MW5-6-20221107 11/7/2022
Volatile Organic Compounds Detected by Method 8260C[b]									
1,1-Dichloroethene	5	µg/L	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
2-Butanone (MEK)	50	µg/L	< 5.0 U	**3.3 J**	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U
Acetone	50	µg/L	< 5.0 U	< 5.0 U	**4.8 J**	**6.9**	< 5.0 U	< 5.0 U	< 5.0 U
Benzene	1	µg/L	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Chloroethane	5	µg/L	< 1.0 U	**0.73 J**	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
cis-1,2-Dichloroethene	5	µg/L	**1.2**	**2.0**	**31.2**	**1.3**	**1.6**	**1.8**	**2.4**
Iodomethane	5	µg/L	< 1.0 U	< 1.0 U	< 1.0 U	**0.87 JB+**	< 1.0 U	< 1.0 U	< 1.0 U
Toluene	5	µg/L	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	**0.54 J**	**0.63 J**	**3.1**
trans-1,2-Dichloroethene	5	µg/L	< 1.0 U	< 1.0 U	**2.0**	< 1.0 U	< 1.0 U	< 1.0 U	**0.73 J**
Trichloroethene	5	µg/L	< 1.0 U	< 1.0 U	**3.0**	**1.6**	**0.60 J**	**0.56 J**	< 1.0 U
Vinyl chloride	2	µg/L	< 1.0 U	< 1.0 U	**28.9**	**0.48 J**	**0.42 J**	**0.45 J**	**0.70 J**

Analyte	Screening Criteria[a]	Location ID Sample Name Sample Date Parent Sample	RW5-1 RW5-1-062922 6/29/2022	RW5-1 RW5-1-20221107 11/7/2022	RW5-1 Dup-01-20221107 11/7/2022 RW5-1-20221107	RW5-2 RW5-2-062922 6/29/2022	RW5-2 RW5-2-20221107 11/7/2022	RW5-4 RW5-4-062922 6/29/2022	RW5-4 RW5-4-20221107 11/7/2022
Volatile Organic Compounds Detected by Method 8260C[b]									
1,1-Dichloroethene	5	µg/L	**1.4**	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ
2-Butanone (MEK)	50	µg/L	< 5.0 U	< 5.0 U	< 5.0 UJ	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 UJ
Acetone	50	µg/L	< 5.0 U	< 5.0 U	< 5.0 UJ	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 UJ
Benzene	1	µg/L	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 U	**0.38 J**	< 1.0 UJ
Chloroethane	5	µg/L	**26.2**	**7.9**	**9.5 J-**	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ
cis-1,2-Dichloroethene	5	µg/L	**1,390**	**0.80 J**	**0.63 J-**	**358**	**106**	**0.89 J**	**1.0 J-**
Iodomethane	5	µg/L	< 1.0 U	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ
Toluene	5	µg/L	**2.8**	**10.3**	**10.6 J-**	< 1.0 U	< 1.0 U	**1.8**	**1.5 J-**
trans-1,2-Dichloroethene	5	µg/L	**7.6**	**0.50 J**	**0.56 J-**	**0.71 J**	< 1.0 U	< 1.0 U	< 1.0 UJ
Trichloroethene	5	µg/L	**2.8**	< 1.0 U	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 UJ
Vinyl chloride	2	µg/L	**767**	**1.1**	**1.3 J-**	**223**	**516 J-**	< 1.0 U	**0.35 J-**

Notes:
(a) New York State Department of Environmental Conservation, Technical and Operational Guidance Series Memorandum #1.1.1: Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, 1998 (with updates), Class GA Groundwater Standards and Guidance Values.
(b) Only compounds with at least one detect are presented; bold results indicate a detected value, shaded results exceed the screening criterion.
µg/L = Microgram(s) per liter
MW = Monitoring well
RW = Recovery well
J = Compound detected, estimated concentration
J- = Compound detected, estimated concentration that may be biased low
J+ = Compound detected, estimated concentration that may be biased high
U = Compound was not detected

Table 5-1
Site 10 - Summary of Detected Groundwater Analytical Results
2022 Annual Comprehensive Sampling/Monitoring Report
Installation-Wide Groundwater Monitoring Program
Niagara Falls Air Reserve Station, New York

Analyte	Screening Criteria[a]	Location ID Sample Name Sample Date Parent Sample	MW10-1DA MW10-1DA-20221108 11/8/2022	MW10-3 MW10-3-063022 6/30/2022	MW10-3D MW10-3D-20221108 11/8/2022	MW10-4D MW10-4D-20221108 11/8/2022	MW10-4E MW10-4E-20221108 11/8/2022
Volatile Organic Compounds Detected by Method 8260C (µg/L)[b]							
1,1-Dichloroethene	5	µg/L	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
2-Hexanone (MBK)	50	µg/L	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U
Acetone	50	µg/L	< 5.0 U	**22.2**	< 5.0 U	< 5.0 U	< 5.0 U
Benzene	1	µg/L	**3.2**	< 1.0 U	< 1.0 U	**1.3**	< 1.0 U
Chloroform	7	µg/L	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
cis-1,2-Dichloroethene	5	µg/L	**3.2**	**0.60 J**	< 1.0 U	**3.7**	**7.2**
Iodomethane	5	µg/L	< 1.0 U	< 1.0 U	**0.96 JB+**	< 1.0 UB	< 1.0 U
Toluene	5	µg/L	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
trans-1,2-Dichloroethene	5	µg/L	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Trichloroethene	5	µg/L	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Vinyl chloride	2	µg/L	**10.8**	< 1.0 U	< 1.0 U	**4.3**	**0.55 J**

Analyte	Screening Criteria[a]	Location ID Sample Name Sample Date Parent Sample	MW10-7 MW10-7-063022 6/30/2022	MW10-9D MW10-9D-20221108 11/8/2022	MW10-10D MW10-10D-20221108 11/8/2022	PW10-1 PW10-1-063022 6/30/2022	PW10-1 PW10-1-20221108 11/8/2022
Volatile Organic Compounds Detected by Method 8260C (µg/L)[b]							
1,1-Dichloroethene	5	µg/L	**0.65 J**	< 1.0 U	< 20.0 U	< 1.0 U	< 1.0 U
2-Hexanone (MBK)	50	µg/L	< 5.0 U	< 5.0 U	**819**	< 5.0 U	< 5.0 U
Acetone	50	µg/L	**22.8**	< 5.0 U	< 100 U	**15.8**	< 5.0 U
Benzene	1	µg/L	< 1.0 U	< 1.0 U	< 20.0 U	< 1.0 U	< 1.0 U
Chloroform	7	µg/L	< 1.0 U	< 1.0 U	**29.2 JB+**	< 1.0 U	< 1.0 UB
cis-1,2-Dichloroethene	5	µg/L	**32.9**	**6.6**	**534**	**2.1**	**1.1**
Iodomethane	5	µg/L	< 1.0 U	< 1.0 U	< 20.0 U	< 1.0 U	< 1.0 UB
Toluene	5	µg/L	< 1.0 U	< 1.0 U	**16.5 J**	< 1.0 U	< 1.0 U
trans-1,2-Dichloroethene	5	µg/L	**2.1**	< 1.0 U	< 20.0 U	< 1.0 U	< 1.0 U
Trichloroethene	5	µg/L	**1.7**	< 1.0 U	**24.8**	< 1.0 U	< 1.0 U
Vinyl chloride	2	µg/L	**8.3**	**16.6**	**42.2**	**2.4**	**1.8**

Table 5-1
Site 10 - Summary of Detected Groundwater Analytical Results
2022 Annual Comprehensive Sampling/Monitoring Report
Installation-Wide Groundwater Monitoring Program
Niagara Falls Air Reserve Station, New York

Analyte	Screening Criteria[(a)]	Location ID Sample Name Sample Date Parent Sample	PW10-2 PW10-2-063022 6/30/2022	PW10-2 PW10-2-20221108 11/8/2022	PZ10-7 PZ10-7-063022 6/30/2022
Volatile Organic Compounds Detected by Method 8260C (µg/L)[(b)]					
1,1-Dichloroethene	5	µg/L	< 1.0 U	< 1.0 U	< 1.0 U
2-Hexanone (MBK)	50	µg/L	< 5.0 U	< 5.0 U	< 5.0 U
Acetone	50	µg/L	**20.2**	< 5.0 U	**24.0**
Benzene	1	µg/L	**0.48 J**	**1.6**	< 1.0 U
Chloroform	7	µg/L	< 1.0 U	< 1.0 U	< 1.0 U
cis-1,2-Dichloroethene	5	µg/L	< 1.0 U	< 1.0 U	< 1.0 U
Iodomethane	5	µg/L	< 1.0 U	< 1.0 U	< 1.0 U
Toluene	5	µg/L	< 1.0 U	< 1.0 U	< 1.0 U
trans-1,2-Dichloroethene	5	µg/L	< 1.0 U	< 1.0 U	< 1.0 U
Trichloroethene	5	µg/L	< 1.0 U	< 1.0 U	< 1.0 U
Vinyl chloride	2	µg/L	< 1.0 U	< 1.0 U	< 1.0 U

Notes:
(a) New York State Department of Environmental Conservation, Technical and Operational Guidance Series Memorandum #1.1.1: Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, 1998 (with updates), Class GA Groundwater Standards and Guidance Values.
(b) Only compounds with at least one detect are presented; bold results indicate a detected value, shaded results exceed the screening criterion.
µg/L = Microgram(s) per liter
MW = Monitoring well
PW = Pumping well
PZ = Piezometer
B = Compound detected in method blank, trip blank, or both
J = Compound detected, estimated concentration
J+ = Compound detected, estimated concentration that may be biased high
U = Compound was not detected

Table 5-2
Site 10 - Summary of Detected Surface Water Analytical Results
2022 Annual Comprehensive Sampling/Monitoring Report
Installation Wide Groundwater Monitoring Program
Niagara Falls Air Reserve Station, New York

Analyte	Location ID Sample Name Sample Date Parent Sample	SW10-5 SW10-5-20221108 11/8/2022	SW10-7 SW10-7-063022 6/30/2022	SW10-7 SW10-7-20221108 11/8/2022	SW10-8 SW10-8-063022 6/30/2022
Volatile Organic Compounds Detected by Method 8260C (µg/L)[(b)]					
Chloroform	µg/L	< 1.0 U	< 1.0 U	< 1.0 UB	< 1.0 U
Iodomethane	µg/L	**0.78 JB+**	< 1.0 U	< 1.0 U	< 1.0 U

Analyte	Location ID Sample Name Sample Date Parent Sample	SW10-8 SW10-8-20221108 11/8/2022	SW99-10 SW99-10-063022 6/30/2022	SW99-10 SW99-10-20221108 11/8/2022
Volatile Organic Compounds Detected by Method 8260C (µg/L)[(b)]				
Chloroform	µg/L	**0.79 JB+**	< 1.0 U	< 1.0 UB
Iodomethane	µg/L	< 1.0 UB	< 1.0 U	**1.1 JB+**

Notes:
(a) Location SW99-10 is downgradient of Site 10 at the installation boundary
(b) Only compounds with at least one detect are presented; bold results indicate a detected value.
µg/L = Microgram(s) per liter
SW = Surface water
B = Compound detected in method blank, trip blank, or both
J+ = Compound detected, estimated concentration that may be biased high
U = Compound was not detected

Table 6-1
Site 13 - Summary of Detected Groundwater Analytical Results
2022 Annual Comprehensive Sampling/Monitoring Report
Installation Wide Groundwater Monitoring Program
Niagara Falls Air Reserve Station, New York

Analyte	Screening Criteria[a]	Location ID Sample Name Sample Date Parent Sample	MW13-4D MW13-4D-062922 6/29/2022	MW13-4D MW13-4D-20221107 11/7/2022	MW13-5D MW13-5D-062922 6/29/2022	MW13-5D MW13-5D-20221107 11/7/2022
Volatile Organic Compounds Detected by Method 8260C (µg/L)[b]						
cis-1,2-Dichloroethene	5	µg/L	**10.1**	**4.8**	**36.0**	**21.6**
trans-1,2-Dichloroethene	5	µg/L	< 1.0 U	< 1.0 U	**0.39 J**	< 1.0 U
Trichloroethene	5	µg/L	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Vinyl chloride	2	µg/L	**5.7**	< 1.0 U	**1.3**	**0.52 J**

Analyte	Screening Criteria[a]	Location ID Sample Name Sample Date Parent Sample	PW13-1 PW13-1-062922 6/29/2022	PW13-1 PW13-1-20221107 11/7/2022	PW13-4D PW13-4D-062922 6/29/2022	PW13-4D PW13-4D-20221107 11/7/2022
Volatile Organic Compounds Detected by Method 8260C (µg/L)[b]						
cis-1,2-Dichloroethene	5	µg/L	**11.7**	**0.85 J**	**3.7**	**6.7**
trans-1,2-Dichloroethene	5	µg/L	**0.45 J**	< 1.0 U	< 1.0 U	< 1.0 U
Trichloroethene	5	µg/L	**0.97 J**	< 1.0 U	< 1.0 U	< 1.0 U
Vinyl chloride	2	µg/L	**4.7**	< 1.0 U	< 1.0 U	**1.0**

Notes:
(a) New York State Department of Environmental Conservation, Technical and Operational Guidance Series Memorandum #1.1.1: Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, 1998 (with updates), Class GA Groundwater Standards and Guidance Values.
(b) Only compounds with at least one detect are presented; bold results indicate a detected value, shaded results exceed the screening criterion.
µg/L = Microgram(s) per liter
MW = Monitoring well
PW = Pumping well
J = Compound detected, estimated concentration
U = Compound was not detected

Table 7-1
Summary of Background Detected Groundwater Analytical Results
2022 Annual Comprehensive Sampling/Monitoring Report
Installation Wide Groundwater Monitoring Program
Niagara Falls Air Reserve Station, New York

Analyte	Screening Criteria[a]	Location ID Sample Name Sample Date	MW1-1DA MW1-1DA-20221107 11/7/2022	MW8-11D MW8-11D-062922 6/29/2022
Volatile Organic Compounds Detected by Method 8260C (µg/L)[b]				
None Detected				

Notes:

(a) New York State Department of Environmental Conservation, Technical and Operational Guidance Series Memorandum #1.1.1: Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, 1998 (with updates), Class GA Groundwater Standards and Guidance Values.

(b) Only compounds with at least one detect are presented; bold results indicate a detected value, shaded results exceed the screening criterion.

µg/L = Microgram(s) per liter

MW = Monitoring well

Figures

DIV/GROUP: ENV/IMDV DB: tsn8708 LD: PIC: PM: TM:
PROJECT: JBMDL (300284960.00001) PATH: T:_ENVNE_ORC\NiagaraReports\Annual Report\2022\MXD\NFARS - Section 1\Fig1-1_Niagara_SiteLocation.mxd DATE: 04/28/2023 12:06:00 PM

78°58'0"W 78°57'30"W 78°57'0"W 78°56'30"W 78°56'0"W 78°55'30"W

43°7'20"N 43°7'0"N 43°6'40"N 43°6'20"N

LOCKPORT RD
PACKARD RD
RUBIN WAY
KIRSCH DR
BLEWETT AVE
HASELEY DR
STATE HWY 182
TUSCARORA RD
JOHNSON ST
WAGNER DR
ENT AVE
FIRE LANE
KIRKBRIDGE DR
HULBY ST
KRUG AVE
UTZIG DR
OLMSTEAD ST
FRANKLIN DR
THOMPSON ST
McGUIRE ST
LANGLEY ST
KINROSS ST
OTIS DR
WALMORE RD
Cayuga Creek
NA

Site 8
DS002

Site 5
DS004

Site 13
ST010

Former
Site 1

Former
Site 2

Former
Site 6

Site 3
LF008

Site 10
FT005



Legend

- Approximate Extent of Former Landfill
- Installation Boundary

0 850 1,700
SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

2022 Annual Report

SITE MAP

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
1-1

78°57'30"W 78°57'0"W 78°56'30"W 78°56'0"W

43°7'0"N

43°6'40"N

PACKARD RD

RUBIN WAY

KIRSCH DR

TUSCARORA RD

JOHNSON ST

ENT AVE

KIRKBRIDGE DR

WAGNER DR

FIRE LANE

NA

UTZIG DR

OLMSTEAD ST

HULBY ST

KRUG AVE

COSEGLIA ST

FRANKLIN DR

THOMPSON ST

McGUIRE ST

LANGLEY ST

KINROSS ST

OTIS DR

WALMORE RD

Cayuga Creek

MW8-11 MW8-11D MW8-11E SW8-8 MW8-3DA MW8-4A MW8-2D MW8-3 MW8-1E MW8-8 MW8-1 SW8-9 MW8-10D CH8-01 MW8-5A MW8-4D

Site 8 DS002

Site 5 DS004

MW5-2D MW5-1A MW5-4 RW5-1 MW5-6 MW5-1E MW5-3D CH5-1 CH5-2 MW5-5A RW5-2 MW5-1DA MW5-6D CH5-3 MW5-7 RW5-3 MW5-4D CH5-4 MW5-5D RW5-4 MW5-7D MW5-8 MW5-8D

MW13-1D PW13-1 MW13-3 MW13-1 PZ13-3D MW13-1E MW13-5 PZ13-4 MW13-5D PZ13-4D MW13-4 MW13-2D MW13-6 PZ13-2/2D MW13-6D PW13-4D MW13-3D MW13-4D PZ13-1D PZ13-1

Site 13 ST010

MW1-7A MW1-1DA

Former Site 1

MW3-8D MW3-8E MW3-8 MW3-1A

Site 3 LF008

MPL2-1A MW3-2 MW3-2D MW3-5D PZ3-4D PZ3-4 PW3-1 PZ3-5D

Former Site 2

MW3-6A MW3-6D PZ3-5 SW3-2

Former Site 6

MPL6-3 MPL6-2A PZ3-1 PZ3-1D PW3-2 SW3-15 PZ3-2 PZ3-3 MW2-1DA PZ3-2D PZ3-6D PZ3-9/9D PZ3-7D MW3-1D PZ3-3D PW3-3A PZ3-8D MW3-1E MW3-3D MW3-4DA MW3-3A SW3-3 MW3-7

Site 10 FT005

MW7-1D MW7-2 MW7-2D MW7-3D SW99-14 SW99-10

MW10-3 MW10-5D SW10-5 PW10-2 MW10-1F MW10-10D MW10-1EA MW10-13 MW10-1DA MW10-13D MW10-2 SW10-8 MW10-4 MW10-11 MW10-8 MW10-11D MW10-8D MW10-12 MW10-7 MW10-12D PW10-1 MW10-4D SW10-6 MW10-6 SW10-7 MW10-6D MW10-3E MW10-4E PZ10-7 MW10-3D MW10-9D MW10-2E

TUSCARORA RD



Legend

- Overburden Well/Piezometer
- Shallow Bedrock Well/Piezometer
- Deep Bedrock Well
- Surface Water Sample
- Approximate Extent of Former Landfill
- Installation Boundary

N

0 550 1,100

SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

2022 Annual Report

INSTALLATION-WIDE WELL/PIEZOMETER MONITORING/SAMPLING LOCATIONS

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 2-1

DIV/GROUP: ENV/IMDV DB: tsn8708 LD: PIC: PM: TM:
PROJECT: JBMDL (30028498.00001) PATH: T:_ENV\NE_ORC\NiagaraReports\Annual Report\2022\MXD\NFARS - Section 1\Fig2-1_Niagara_WellLocations.mxd DATE: 04/28/2023 12:15:06 PM

78°56'0"W

78°55'30"W

43°7'0"N

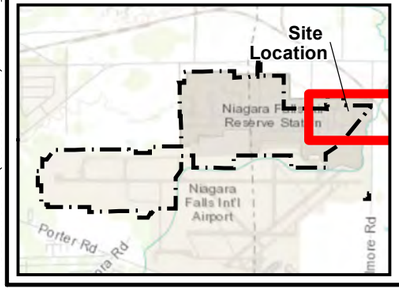
MW1-1DA
MW1-7A
427
3088
424
3123
425
2559
426
MW3-8E
MW3-8
MW3-8D
MW3-1A
UTZIG DR
302
400
MPL2-1A
3110
3141
N/A
410
UTZIG DR
MW3-2DA
MW3-2
411
403
404
12404
OLMSTEAD ST
NA
3120
3120
NA
MW3-6D
MW3-6A
Site 3
WALMORE RD
405
420
421
MPL6-3
MPL6-2A
N/A
MW3-5D
PZ3-5
PZ3-5D
SW3-2
PZ3-1D
PZ3-1
PZ3-4D
PZ3-4
SW3-15
FRANKLIN DR
3200
<Null>
502
503
504
MW2-1DA
KINROSS ST
413
PZ3-2D
PZ3-2
PZ3-6
PZ3-3
PZ3-6D
MW3-1E
PZ3-3D
HULBY ST
600
624
PW3-3A
MW3-4DA
PZ3-7D
MW3-1DA
PZ3-9
PZ3-9D
MW3-3A
MW3-3DA
506
12503
500
2557
618
619
McGUIRE ST
LANGLEY ST
KRUG AVE
508
612
602
PZ3-8D
1198
626
620
621
2562
MW3-7
SW3-3
532
512
512a

78°56'0"W

78°55'30"W

Cayuga Creek

DIV/GROUP: ENV/MDV DB: pa9162 LD: PIC: PM: TM:
PROJECT: JBMDL (30028498.00001) PATH: T:_ENVNE_ORC\Niagara\Reports\Annual Report\2022\MXD\NFARS - Section 1\Fig3-1_Niagara_Site3.mxd DATE: 3/21/2023 11:26:45 AM



Legend

- Overburden Well/Piezometer
- Shallow Bedrock Well/Piezometer
- Deep Bedrock Well
- Surface Water Sample
- Groundwater Collection Trench
- Approximate Extent of Former Landfill
- Installation Boundary

N

0 170 340

SCALE IN FEET

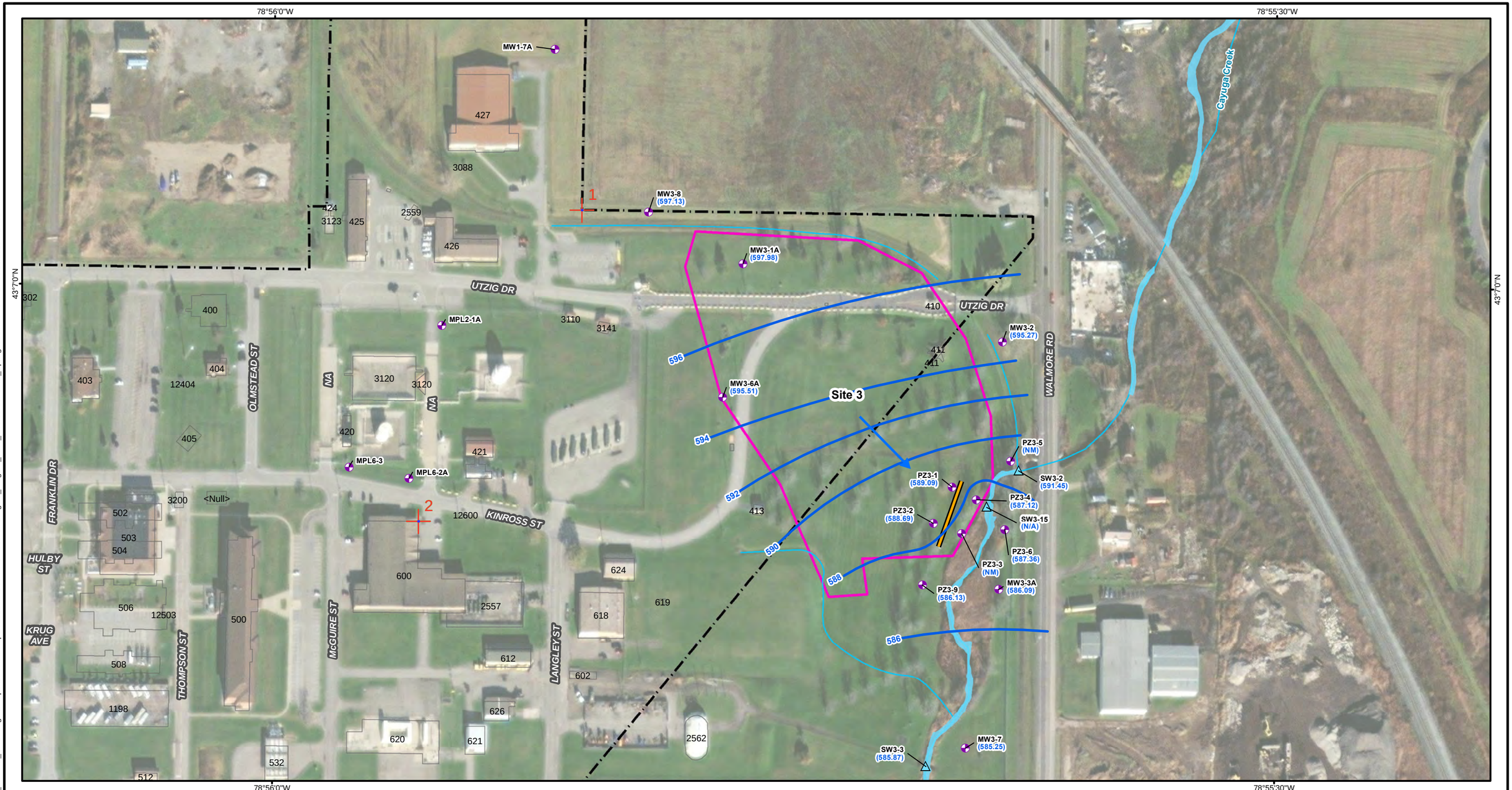
NIAGARA FALLS AIR RESERVE STATION
NEW YORK

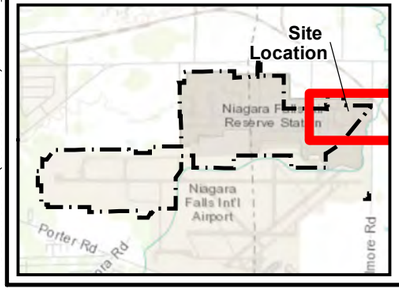
2022 Annual Report

SITE 3 - MONITORING/SAMPLING LOCATIONS

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
3-1





Legend

- Overburden Well/Piezometer
- Surface Water Sample
- (595.27) Groundwater Elevation
- Groundwater Contour
- Groundwater Flow Direction
- Groundwater Collection Trench
- Approximate Extent of Former Landfill
- Installation Boundary

Notes:
1. N/A = Not applicable; a water level measurement is not collected at this location
2. NM = Not measured; standing water present at ground surface

N

0 170 340

SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

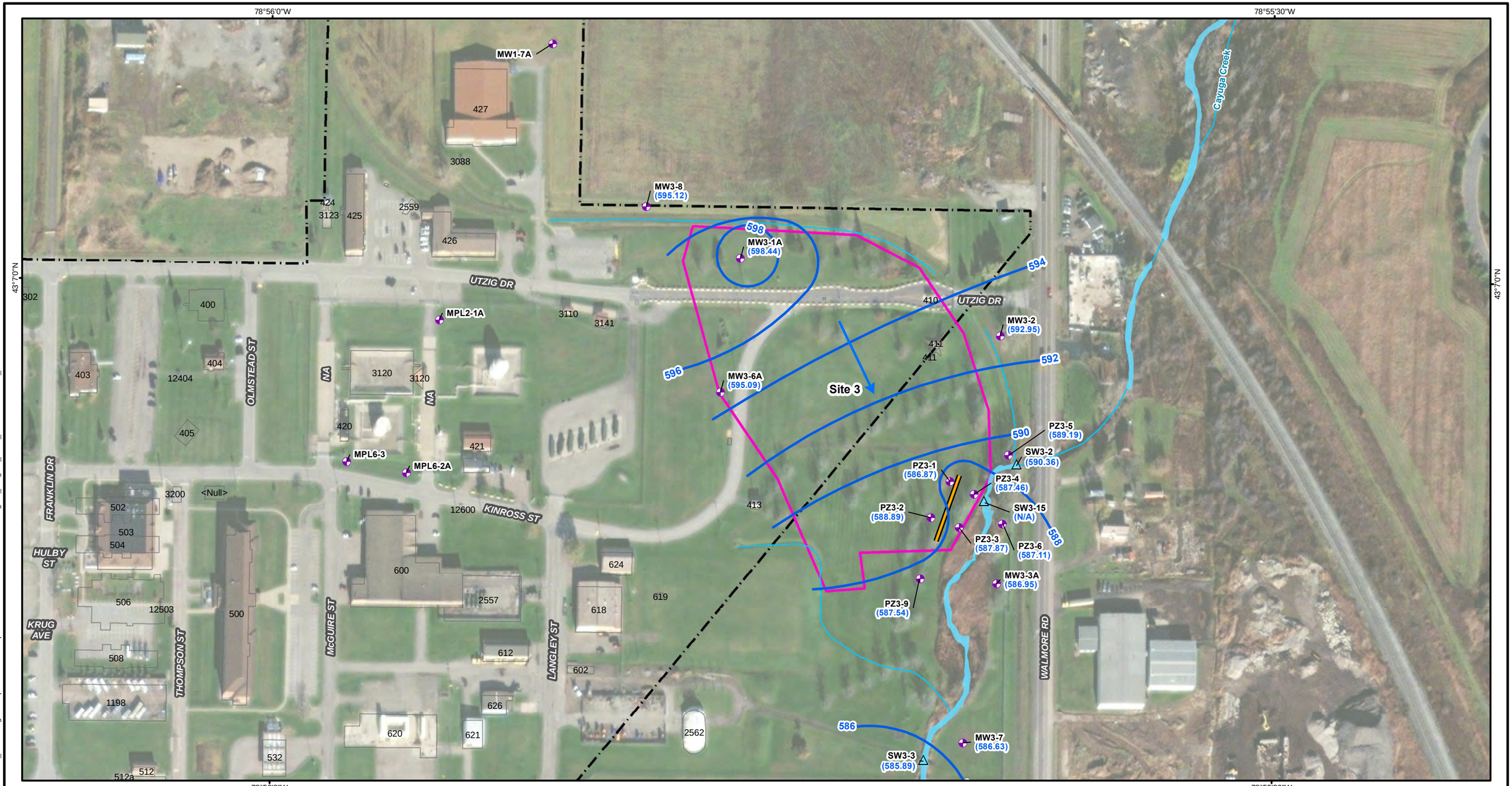
2022 Annual Report

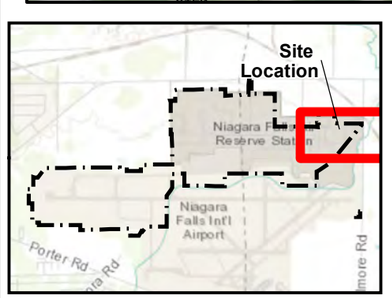
SITE 3 - OVERBURDEN GROUNDWATER AND SURFACE WATER CONTOUR MAP (SPRING 2022)

SERES Engineering & Surveying, LLC
ARCADIS a joint venture

FIGURE
3-2

DIV/GROUP: ENV/IMDV DB: PJ01206 LD: PIC: PM: TM:
PROJECT: JBMDL (30028498.00001) PATH: T:_ENV\NE_ORC\NiagaraReports\Annual Report\2022\MXD\NFARS - Section 1\Fig3-2_Niagara_Site3_OverburdenGWE_Spring2022.mxd DATE: 05/18/2023 7:24:01 PM





Legend

- Overburden Well/Piezometer
- (598.44) Groundwater Elevation
- Surface Water Sample
- Groundwater Contour
- Groundwater Flow Direction
- Groundwater Collection Trench
- Approximate Extent of Former Landfill
- Installation Boundary

Notes:
1. N/A = Not applicable; a water level measurement is not collected at this location
2. NM = Not measured; standing water present at ground surface

0 170 340
SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

2022 Annual Report

SITE 3 - OVERBURDEN GROUNDWATER AND SURFACE WATER CONTOUR MAP (FALL 2022)

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 3-3

DIV/GROUP: ENV/IMDV DB: PJI01206 LD: PIC: PM: TM:
PROJECT: JBMDL (30028498.00001) PATH: T:_ENV\ME_ORC\NiagaraReports\Annual Report\2022\MXD\NFARS - Section 1\Fig3-3_Niagara_Site3_OverburdenGWE_Fall2022.mxd DATE: 05/01/2023 3:06:44 PM

DIV/GROUP: ENV/IMDV DB: PJI01206 LD: PIC: PM: TM:
PROJECT: JBMDL (30028498.00001) PATH: T:_ENV\NE_ORC\NiagaraReports\Annual Report\2022\MXD\NFARS - Section 1\Fig3-4_Niagara_Site3_ShallowBEDROCKGWE_Spring2022.mxd DATE: 05/18/2023 7:36:00 PM

78°56'0"W

78°55'30"W

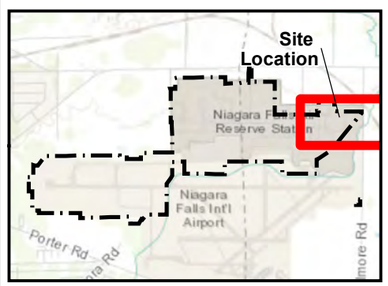
43°7'0"N

MW1-1DA
MW3-8E (590.84)
MW3-8D (591.15)
MW3-2DA (594.19)
MW3-6D (595.82)
MW3-5D (590.13)
PZ3-1D (589.38)
PZ3-5D (NM)
PZ3-4D (589.39)
PZ3-2D (588.79)
MW3-1E (590.39)*
PZ3-3D (588.50)
PZ3-6D (NM)
PW3-3A (587.42)
MW3-4DA (589.23)
PZ3-7D (590.64)
PZ3-9D (587.67)
MW3-3DA (590.02)
MW3-1DA (588.37)
PZ3-8D (591.31)
MW2-1DA

592
594
590
588
N/A
N/A
Site 3

UTZIG DR
KINROSS ST
OLMSTEAD ST
FRANKLIN DR
HULBY ST
KRUG AVE
THOMPSON ST
McGUIRE ST
LANGLEY ST
WALMORE RD
Cayuga Creek

427
3088
424
3123
425
2559
426
302
400
403
404
12404
405
3110
3141
3120
3120
420
421
410
411
411
413
3200
<Null>
502
503
504
506
12503
500
508
1198
600
2557
612
602
626
620
621
532
624
619
618
2562



Legend

- Shallow Bedrock Well/Piezometer
- Deep Bedrock Well
- (594.19) Groundwater Elevation
- Groundwater Contour
- Groundwater Flow Direction
- Groundwater Collection Trench
- Approximate Extent of Former Landfill
- Installation Boundary

Notes:
1. NM = Not measured; standing water present at ground surface.
2. * = Elevation not used to develop groundwater contours.

N

0 170 340
SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK
2022 Annual Report

SITE 3 - SHALLOW BEDROCK GROUNDWATER CONTOUR MAP (SPRING 2022)

SERES Engineering & Solutions, LLC
ARCADIS a joint venture

FIGURE 3-4

78°56'0"W

78°55'30"W

43°7'0"N

MW1-1DA

427

3088

424

3123

425

2559

MW3-8E (590.5)

MW3-8D (590.55)

426

UTZIG DR

592

N/A

410

UTZIG DR

3110

3141

MW3-2DA (589.82)

411

411

Cayuga Creek

400

404

403

12404

OLMSTEAD ST

NA

3120

3120

NA

WALMORE RD

594

MW3-6D (595.29)

Site 3

420

421

N/A

MW3-5D (589.75)

PZ3-5D (589.42)

PZ3-1D (589.06)

FRANKLIN DR

3200

<Null>

413

PZ3-4D (589.09)

502

503

504

12600

MW2-1DA NS

KINROSS ST

PZ3-2D (588.9)

PZ3-3D (588.23)

PZ3-6D (NM)

MW3-1E (590)*

MW3-4DA (588.83)

PZ3-7D (589.58)

HULBY ST

600

624

590

PW3-3A (587.22)

506

12503

500

2557

619

618

MW3-1DA (588.63)

PZ3-9D (587.23)

MW3-3DA (589.71)

KRUG AVE

McGUIRE ST

LANGLEY ST

588

PZ3-8D (588.22)

508

THOMPSON ST

612

602

1198

626

620

621

2562

532

78°56'0"W

78°55'30"W

Site Location

Niagara Falls Air Reserve Station

Niagara Falls Int'l Airport

Porter Rd

Legend

- Shallow Bedrock Well/Piezometer
- Deep Bedrock Well
- (589.58) Groundwater Elevation
- Groundwater Contour
- Groundwater Flow Direction
- Groundwater Collection Trench
- Approximate Extent of Former Landfill
- Installation Boundary

Notes:
1. NM = Not measured; standing water present at ground surface.
2. * = Elevation not used to develop groundwater contours.

0 170 340

SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

2022 Annual Report

SITE 3 - SHALLOW BEDROCK GROUNDWATER CONTOUR MAP (FALL 2022)

SERES Engineering & Technology, LLC
ARCADIS a joint venture

FIGURE 3-5

DIV/GROUP: ENV/IMDV DB: PJ101206 LD: PIC: PM: TM:
PROJECT: J6MDL (30028498.00001) PATH: T:_ENV\NE_ORC\Niagara\Reports\Annual Report\2022\MXD\NFARS - Section 1\Fig3-5_Niagara_Site3_ShallowGWE_Fall2022.mxd DATE: 05/18/2023 7:42:46 PM

78°56'0"W

78°55'30"W

43°7'0"N

MW1-1DA
MW1-7A
427
3088
424
3123
425
2559
426
MW3-8E
MW3-8
MW3-8D
MW3-1A
UTZIG DR
302
400
MPL2-1A
3110
3141
N/A
410
MW3-2DA
MW3-2
411
403
404
12404
OLMSTEAD ST
NA
3120
3120
MW3-6D
MW3-6A
Site 3
WALMORE RD
405
420
421
MPL6-3
MPL6-2A
MW3-5D
PW3-1
PZ3-5
PZ3-5D
PZ3-1D
PZ3-1
PZ3-4
PZ3-4D
PW3-2
PZ3-2D
PZ3-2
PZ3-6
MW3-1E
PW3-3A
FRANKLIN DR
3200
<Null>
502
503
504
HULBY ST
MW2-1DA
KINROSS ST
624
600
MW3-1DA
PZ3-9
PZ3-9D
MW3-3A
MW3-3DA
506
12503
500
2557
618
619
KRUG AVE
508
McGUIRE ST
LANGLEY ST
612
602
THOMPSON ST
1198
626
620
621
2562
MW3-7
532
512

Cayuga Creek

PW3-3A	
06/29/2022	
Benzene	0.43 J
cDCE	40.9
tDCE	0.72 J
TCE	10.8
VC	37.6

MW3-4DA	
06/29/2022	
cDCE	5.1
VC	3.5

MW3-3DA	
06/29/2022	
cDCE	5.3
VC	9.1

SW3-3	
6/29/2022	
Chloroform	0.48 J

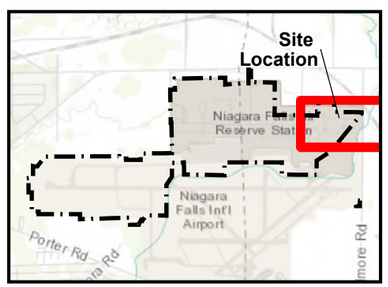
SW3-2	
6/29/2022	
Chloroform	0.50 J

SW3-15	
6/29/2022	
Chloroform	0.40 J

PZ3-6D	
06/29/2022	
All VOCs	ND

PZ3-7D	
06/29/2022	
cDCE	1.9 [1.9]

PZ3-8D	
06/29/2022	
All VOCs	ND



Legend

- Overburden Well/Piezometer
- Shallow Bedrock Well/Piezometer
- Deep Bedrock Well
- Surface Water Sample
- Groundwater Collection Trench
- Approximate Extent of Former Landfill
- Installation Boundary

Notes:
1. Results are in micrograms per liter (ug/L).
2. Blue shading indicates result is above NYSDEC Class GA Standards.
3. Results in brackets represent sample duplicate.

Abbreviation:
J = Compound detected, estimated concentration

0 170 340
SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

2022 Annual Report

SITE 3 - GROUNDWATER AND SURFACE WATER DETECTIONS (SPRING 2022)

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
3-6

DIV/GROUP: ENV/MDV DB: PJ01206 LD: PIC: PM: TM:
PROJECT: JB/MDL (30028498.00001) PATH: T:_ENV\NE_ORC\Niagara\Reports\Annual Report\2022\MXD\NFARS - Section 1\Fig3-6_Niagara_Site3_Detections(SPRING 2022).mxd DATE: 05/18/2023 7:45:23 PM

DIV/GROUP: ENV/IMDV DB: PJI01206 LD: PIC: PM: TM:
PROJECT: JBMDL (30028498.00001) PATH: T:_ENVNE_ORC\Niagara\Reports\Annual Report\2022\MXD\NFARS - Section 1\Fig3-7_Niagara_Site3_Detections(FALL 2022).mxd DATE: 05/01/2023 9:22:02 PM

78°56'0"W

78°55'30"W

43°7'0"N

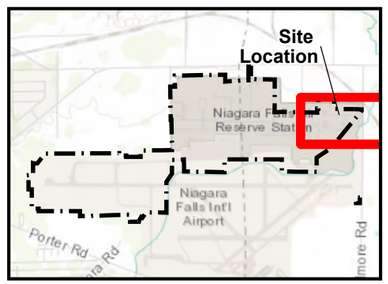
MW1-1DA
MW1-7A
427
3088
424
3123
425
2559
426
MW3-8E
MW3-8
MW3-8D
MW3-1A
UTZIG DR
302
400
MPL2-1A
3110
3141
N/A
410
MW3-2DA
MW3-2
413
411
403
404
12404
OLMSTEAD ST
NA
3120
3120
NA
MW3-6D
MW3-6A
Site 3
WALMORE RD
420
405
421
MPL6-3
MPL6-2A
N/A
MW3-5D
PW3-1
PZ3-5
PZ3-5D
PZ3-1D
PZ3-1
PZ3-4
PZ3-4D
PW3-2
FRANKLIN DR
3200
<Null>
502
503
504
MW2-1DA
KINROSS ST
PZ3-2D
PZ3-2
413
PZ3-6
PZ3-6D
MW3-1E
PZ3-3
PZ3-7D
HULBY ST
600
624
PW3-3A
PZ3-3D
MW3-4DA
MW3-1DA
PZ3-9
PZ3-9D
MW3-3A
MW3-3DA
506
12503
500
2557
618
619
McGUIRE ST
LANGLEY ST
KRUG AVE
PZ3-8D
508
612
602
THOMPSON ST
1198
626
620
621
2562
MW3-7
532
512

Cayuga Creek

SW3-2	
11/07/2022	
Chloroform	1.1 JB+
Iodomethane	1.4 JB+

SW3-15	
11/07/2022	
Chloroform	0.79 JB+

SW3-3	
11/07/2022	
Chloroform	0.96 JB+



Legend

- Overburden Well/Piezometer
- Shallow Bedrock Well/Piezometer
- Deep Bedrock Well
- Surface Water Sample
- Groundwater Collection Trench
- Approximate Extent of Former Landfill
- Installation Boundary

Note:
1. Results are in micrograms per liter (ug/L).

Abbreviations:
B = Compound detected in trip blank
J+ = Compound detected, estimated concentration that may be biased high

0 170 340
SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

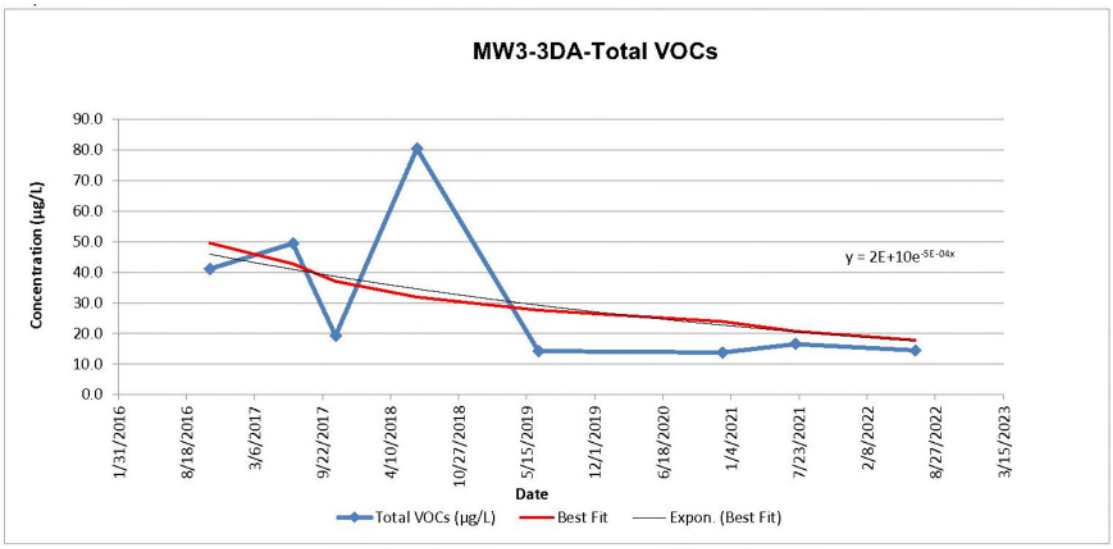
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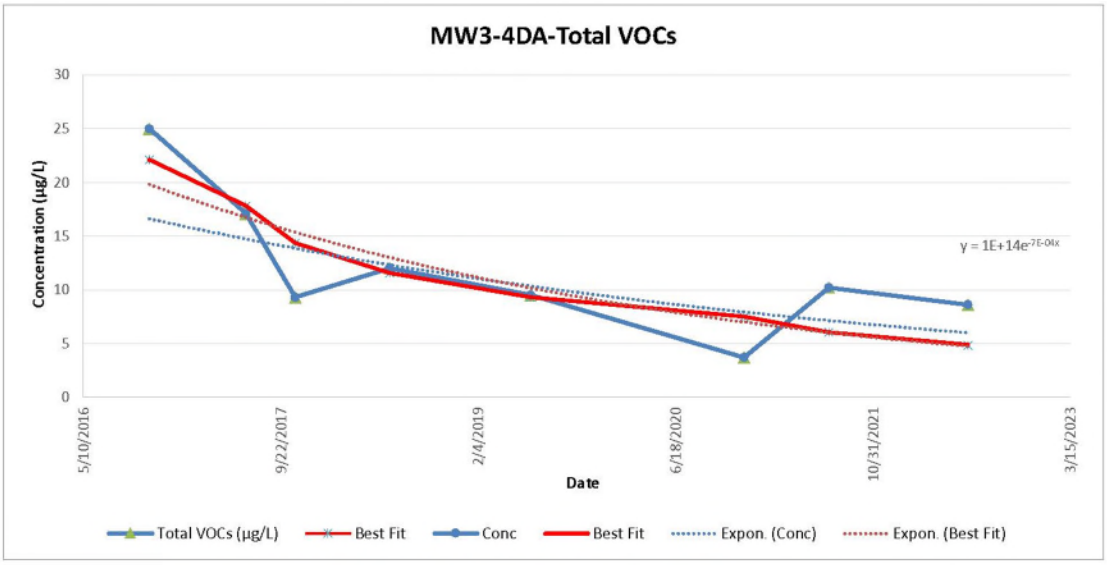
SITE 3 - SURFACE WATER DETECTIONS (FALL 2022)

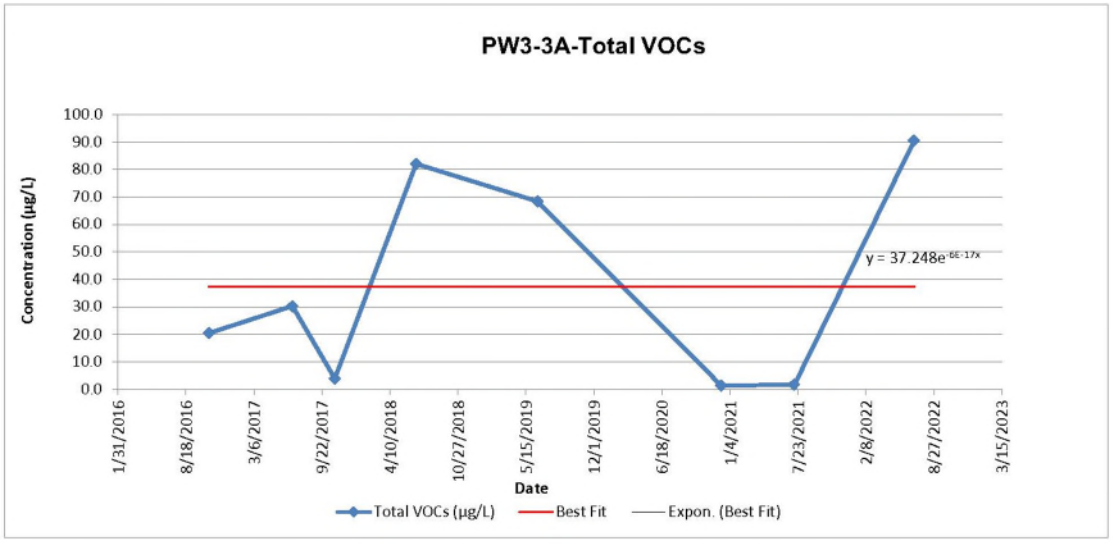
SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
3-7

Figure 3-8 – Site 3 – Long Term Trend Data

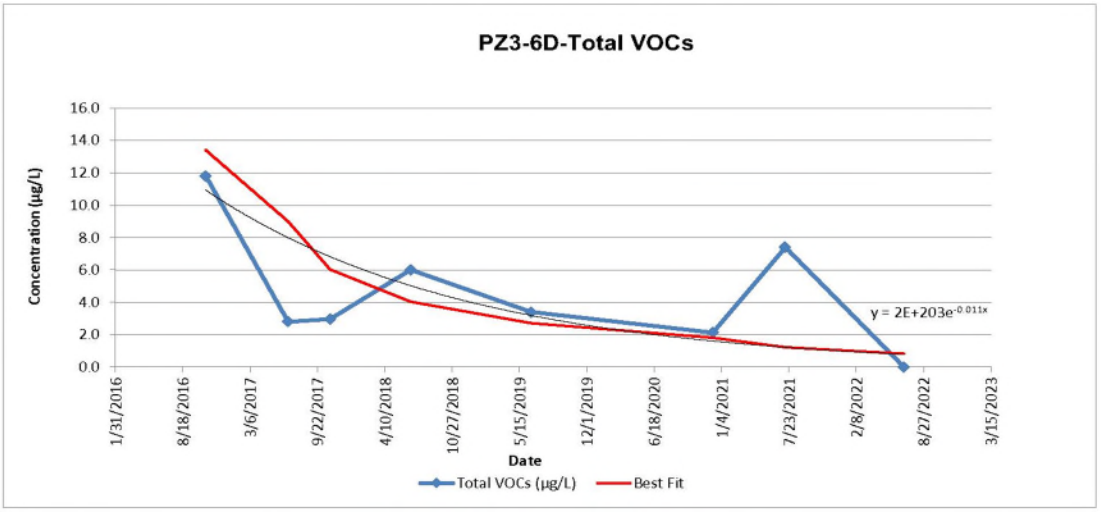


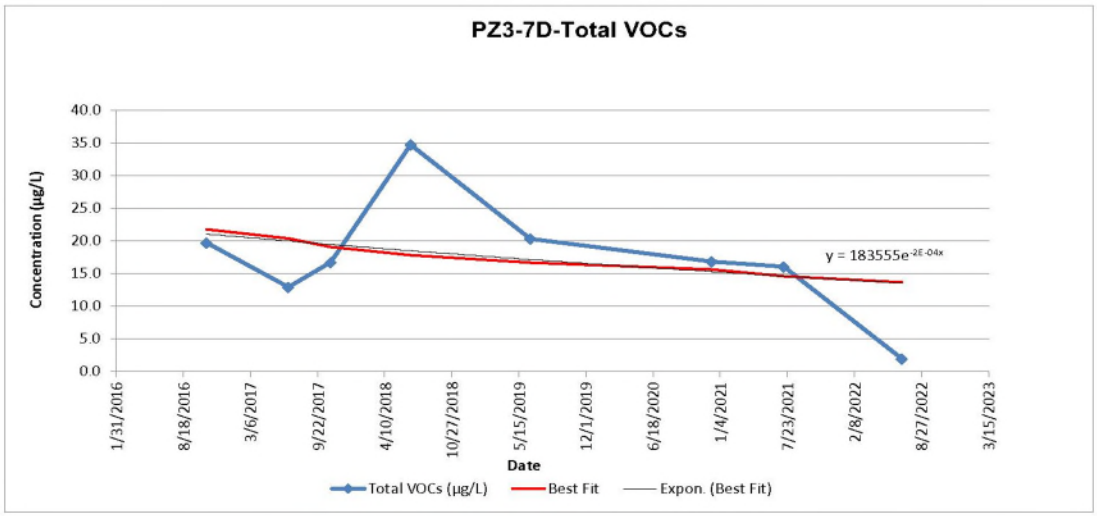


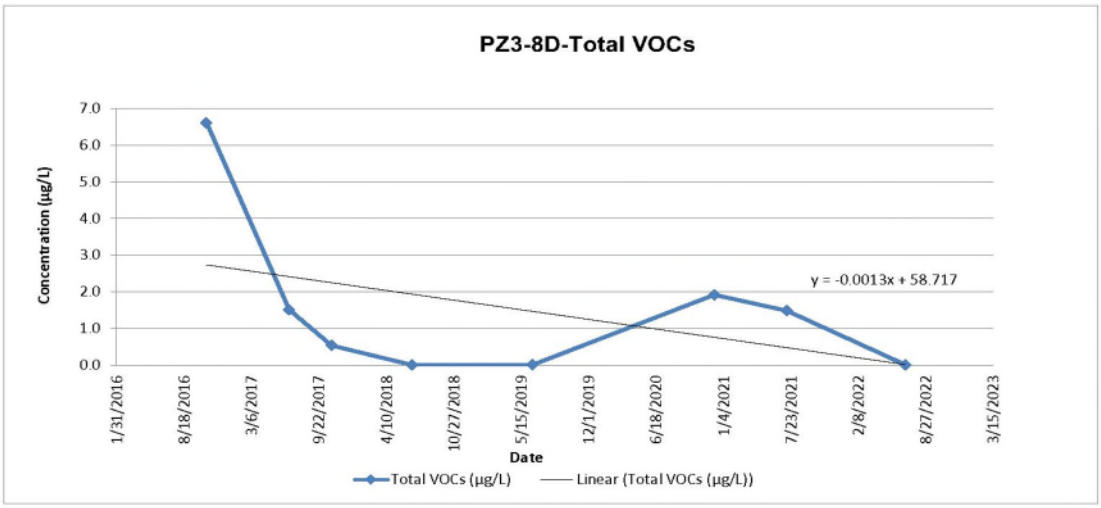


Refer to the tables presented in Appendix E for a listing of the individual VOCs and associated concentrations comprising the total VOC concentrations presented in each graph.

Figure 3-8 – Site 3 – Long Term Trend Data







Refer to the tables presented in Appendix E for a listing of the individual VOCs and associated concentrations comprising the total VOC concentrations presented in each graph.

78°57'0"W

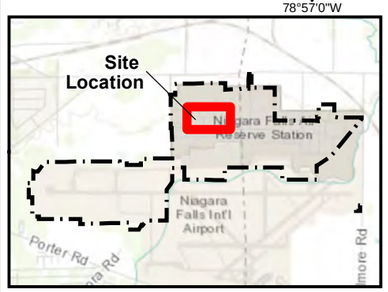
43°7'0"N

919
922
204
205
2502
1199
924
920
830
828
NA

MW5-1A
MW5-2D
MW5-4
MW5-3D
MW5-5A
MW5-1DA
RW5-1
RW5-2
CH5-1
MW5-1E
MW5-6
CH5-2
MW5-5D
RW5-3
CH5-3
CH5-4
MW5-4D
RW5-4
MW5-6D
MW5-7
MW5-7D
MW5-8
MW5-8D

AVFUELS CIRCLE
WAGNER DR

78°57'0"W



Legend

- Overburden Well/Piezometer
- Shallow Bedrock Well/Piezometer
- Deep Bedrock Well
- Fence
- Installation Boundary

0 100 200
SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

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SITE 5 - MONITORING/SAMPLING LOCATIONS

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
4-1

DIV/GROUP: ENV/MDV DB: PJ101206 LD: PIC: PM: TM:
PROJECT: J&MDL (30028498.00001) PATH: T:_ENVNE_ORC\Niagara\Reports\Annual Report\2022\MXD\NFARS - Section 1\Fig4-1_Niagara_Site5.mxd DATE: 03/22/2023 12:35:27 PM

78°57'0"W

43°7'0"N

<Null>

919

MW5-1A
(588.50)

588

MW5-4
(587.05)

2502

MW5-5A
(586.62)

922

205

204

<Null>

RW5-1
(589.68)

RW5-2
(589.16)

MW5-6
(588.96)

MW5-7
(590.12)

AVFUELS CIRCLE

RW5-3
(588.56)

1199

<Null>

RW5-4
(588.72)

924

920

NA

590

MW5-8
(587.23)

830

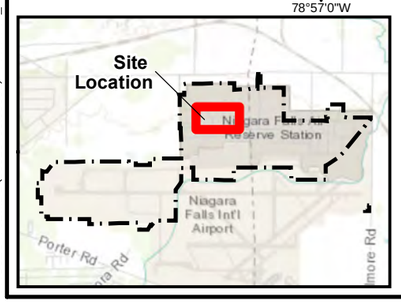
828

WAGNER DR

<Null>

78°57'0"W

43°7'0"N



Legend

- Overburden Well/Piezometer
- (587.23) Groundwater Elevation
- Groundwater Contour
- Groundwater Flow Direction
- Fence
- Installation Boundary

N

0 100 200

SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

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SITE 5 - OVERBURDEN GROUNDWATER CONTOUR MAP (SPRING 2022)

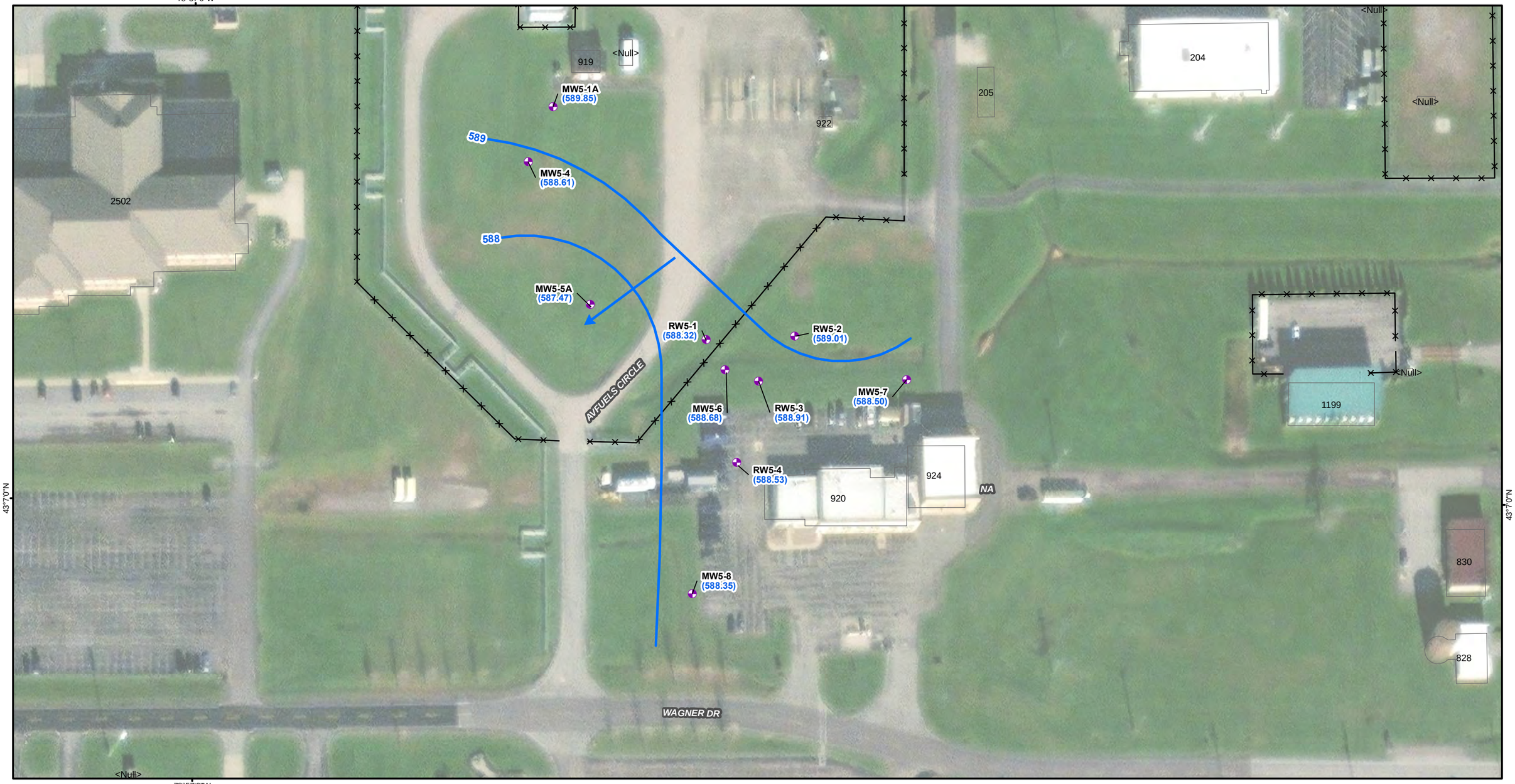
SERES Engineering & Solutions, LLC
ARCADIS a joint venture

FIGURE
4-2

DIV/GROUP: ENV/MDV DB: PJI01206 LD: PIC: PM: TM:
PROJECT: J:\MDL (30028498.00001) PATH: T:_ENVWE_ORC\Niagara\Reports\Annual Report\2022\MXD\NFARS - Section 1\Fig4-2_Niagara_Site5_OverburdenGWE_Spring2022.mxd DATE: 04/29/2023 1:35:58 PM

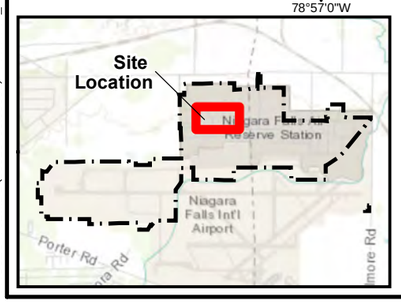
78°57'0"W

43°7'0"N



78°57'0"W

43°7'0"N



Legend

- Overburden Well/Piezometer
- (588.32) Groundwater Elevation
- Groundwater Contour
- Groundwater Flow Direction
- Fence
- Installation Boundary

0 100 200

SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

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SITE 5 - OVERBURDEN GROUNDWATER CONTOUR MAP (FALL 2022)

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
4-3

DIV/GROUP: ENV/MDV DB: PJI01206 LD: PIC: PM: TM:
PROJECT: J&MDL (30028498.00001) PATH: T:_ENV\NE_ORC\Niagara\Reports\Annual Report\2022\MXD\NFARS - Section 1\Fig4-3_Niagara_Site5_OverburdenGWE_Fall2022.mxd DATE: 05/01/2023 9:28:25 PM

78°57'0"W

78°56'50"W

43°7'4"N

43°7'0"N

2502

919

922

205

204

MW5-2D
(587.23)

MW5-3D
(587.01)

MW5-1DA
(586.83)

CH5-1
(586.77)

MW5-1E
(583.69)*

MW5-5D
(586.78)

CH5-2
(586.57)

CH5-4
(587.37)

CH5-3
(589.34)*

MW5-4D
(586.23)

MW5-6D
(589.13)

1199

AVFUELS CIRCLE

924

920

NA

588

MW5-7D
(587.81)

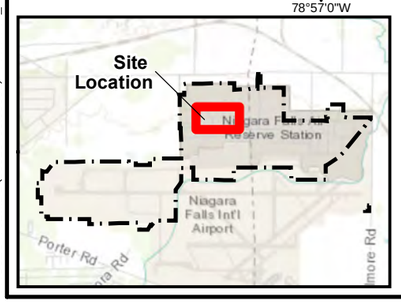
830

828

586

WAGNER DR

MW5-8D
(584.65)



Legend

- Shallow Bedrock Well/Piezometer
- Deep Bedrock Well
- (584.65) Groundwater Elevation
- Groundwater Contour
- Groundwater Flow Direction
- Fence
- Installation Boundary

Note:
1. * = Elevation not used to develop groundwater contours.

0 100 200

SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

2022 Annual Report

SITE 5 - SHALLOW BEDROCK GROUNDWATER CONTOUR MAP (SPRING 2022)

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
4-4

DIV/GROUP: ENV/MDV DB: PJI01206 LD: PIC: PM: TM:
PROJECT: J&MDL (30028498.00001) PATH: T:_ENVNE_ORC\Niagara\Reports\Annual Report\2022\MXD\NFARS - Section 1\Fig4-4_Niagara_Site5_ShallowGWE_Spring2022.mxd DATE: 04/29/2023 2:04:37 PM

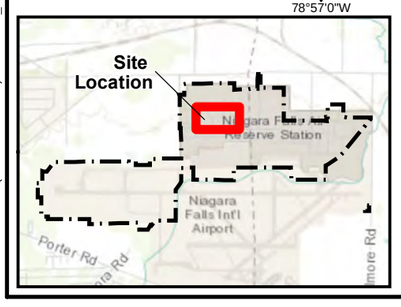
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PROJECT: JBMDL (300284980.00001) PATH: T:_ENVNE_ORC\Niagara\Reports\Annual Report\2022\MXD\NFARS - Section 11\Fig4-5_Niagara_Site5_ShallowGWE_Fall2022.mxd DATE: 04/29/2023 2:49:08 PM

78°57'0"W
78°56'50"W
43°7'4"N
43°7'0"N

MW5-2D (588.38)
MW5-3D (587.92)
MW5-1DA (587.42)
CH5-1 (587.33)
MW5-1E (584.17)*
CH5-2 (587.35)
MW5-5D (587.24)
CH5-4 (588.56)
CH5-3 (587.76)
MW5-4D (578.43)*
MW5-6D (588.54)
MW5-7D (588.52)
MW5-8D (585.32)

AVFUELS CIRCLE
WAGNER DR
NA
588
586

919
922
205
204
2502
924
920
1199
830
828



Legend

- Shallow Bedrock Well/Piezometer
- Deep Bedrock Well
- (587.33) Groundwater Elevation
- Groundwater Contour
- Groundwater Flow Direction
- Fence
- Installation Boundary

Note:
1. * = Elevation not used to develop groundwater contours.

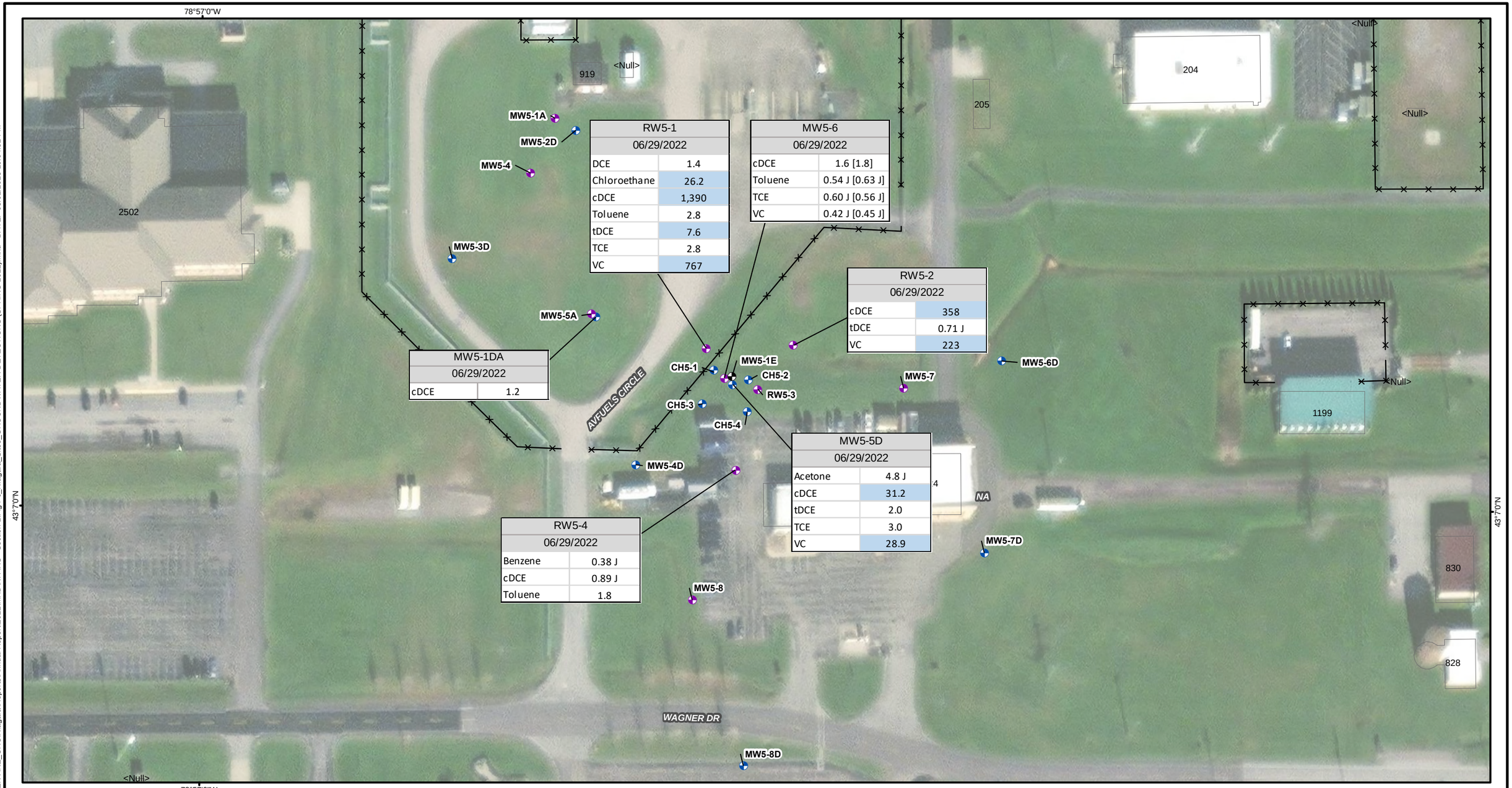
0 100 200
SCALE IN FEET

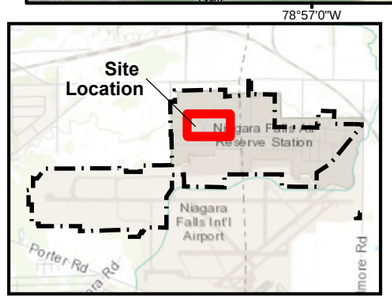
NIAGARA FALLS AIR RESERVE STATION
NEW YORK
2022 Annual Report

SITE 5 - SHALLOW BEDROCK GROUNDWATER CONTOUR MAP (FALL 2022)

SERES Engineering & Solutions, LLC
ARCADIS a joint venture

FIGURE 4-5





Legend

- Overburden Well/Piezometer
- Shallow Bedrock Well/Piezometer
- Deep Bedrock Well
- Fence
- Installation Boundary

Notes:
1. Results are in micrograms per liter (ug/L).
2. Blue shading indicates result is above NYSDEC Class GA Standards.
3. Results in brackets represent sample duplicate.

Abbreviations:
J = Analyte detected; estimated concentration

0 100 200
SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
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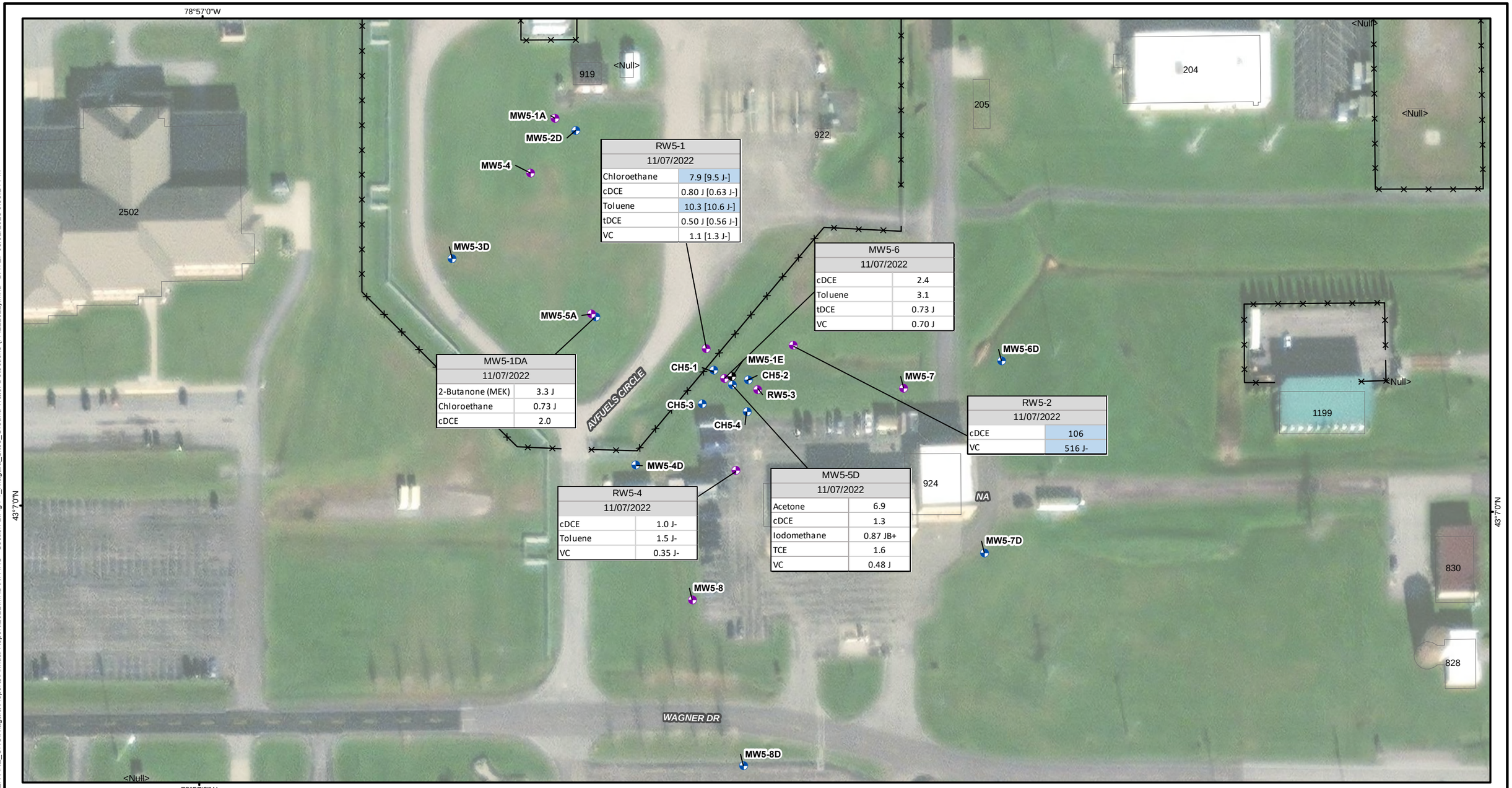
2022 Annual Report

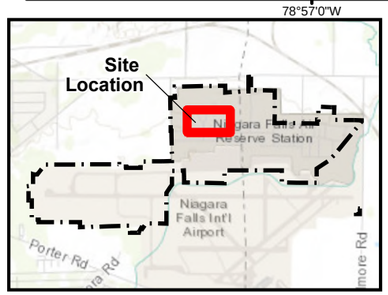
SITE 5 -GROUNDWATER DETECTIONS (SPRING 2022)

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 4-6

DIV/GROUP: ENV/IMDV DB: PJI01206 LD: PIC: PM: TM:
PROJECT: JBMDL (30028498.00001) PATH: T:_ENVME_ORC\NiagaraIReports\Annual Report\2022\MXD\NFARS - Section 1\Fig4-6_Niagara_Site5_GROUNDWATER DETECTIONS (SPRING 2022).mxd DATE: 05/01/2023 10:04:52 PM





Legend

- Overburden Well/Piezometer
- Shallow Bedrock Well/Piezometer
- Deep Bedrock Well
- Fence
- Installation Boundary

Notes:
1. Results are in micrograms per liter (ug/L).
2. Blue shading indicates result is above NYSDEC Class GA Standards.
3. Results in brackets represent sample duplicate.

Abbreviations:
B = Compound detected in method blank, trip blank, or both
J = Analyte detected; estimated concentration
J- = Analyte detected; estimated concentration that may be biased low
J+ = Analyte detected; estimated concentration that may be biased high

0 100 200
SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
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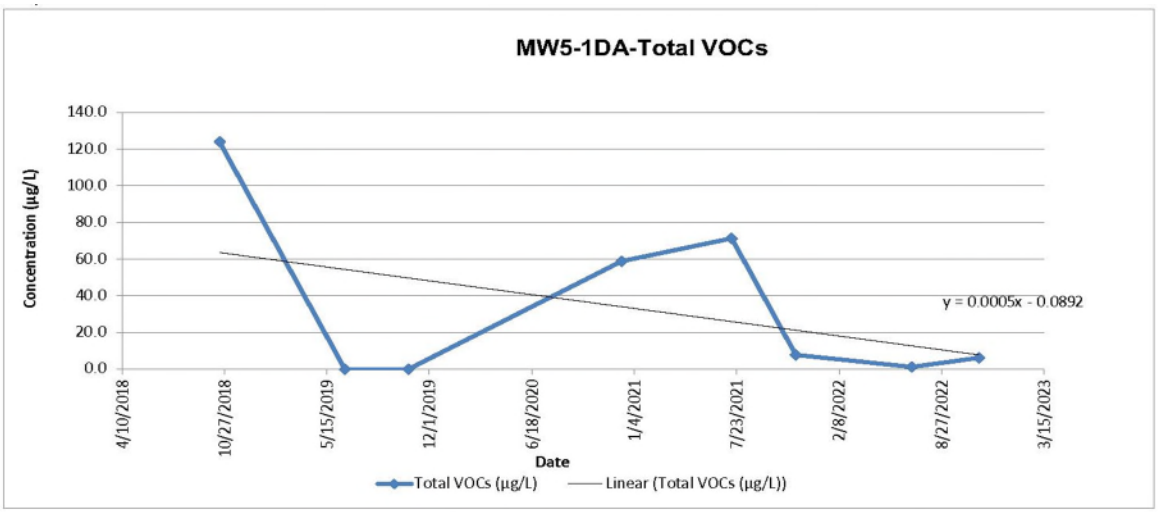
SITE 5 - GROUNDWATER DETECTIONS (FALL 2022)

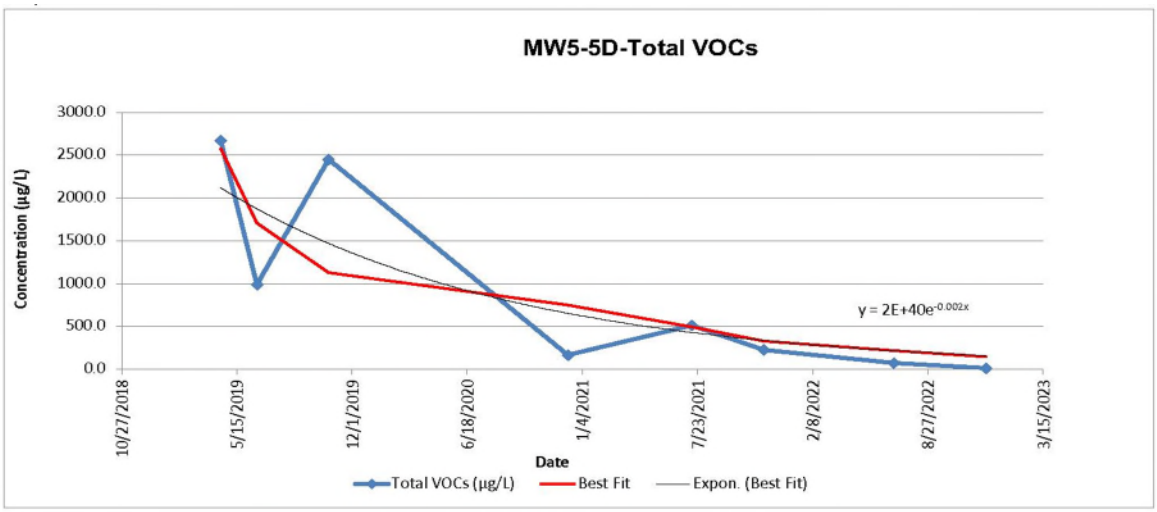
SERES Engineering & Services, LLC
ARCADIS a joint venture

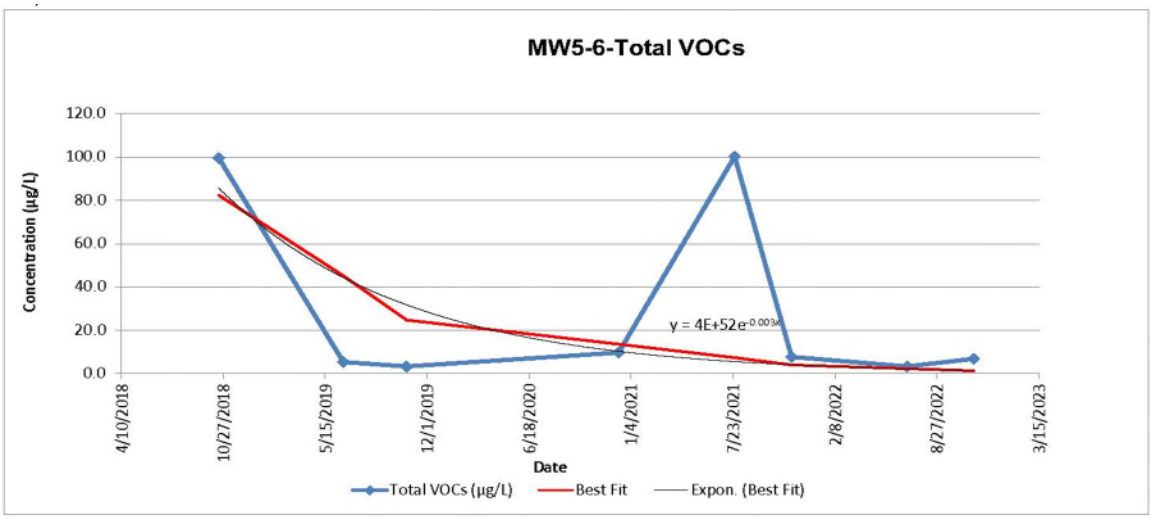
FIGURE 4-7

DIV/GROUP: ENV/MDV DB: PJ101206 LD: PIC: PM: TM:
PROJECT: JBMDL (30028498.00001) PATH: T:_ENV\NE_ORC\Niagara\Reports\Annual Report\2022\MXD\NFARS - Section 1\Fig4-7_Niagara_Site5_Ground Water Detections (FALL2022).mxd DATE: 05/01/2023 9:58:24 PM

Figure 4-8 – Site 5 – Long Term Trend Data

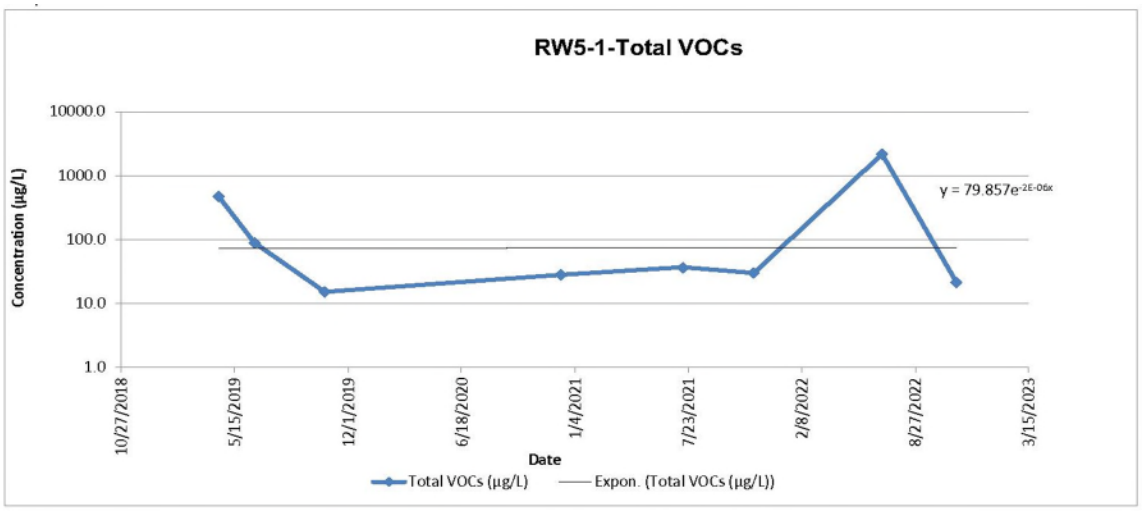


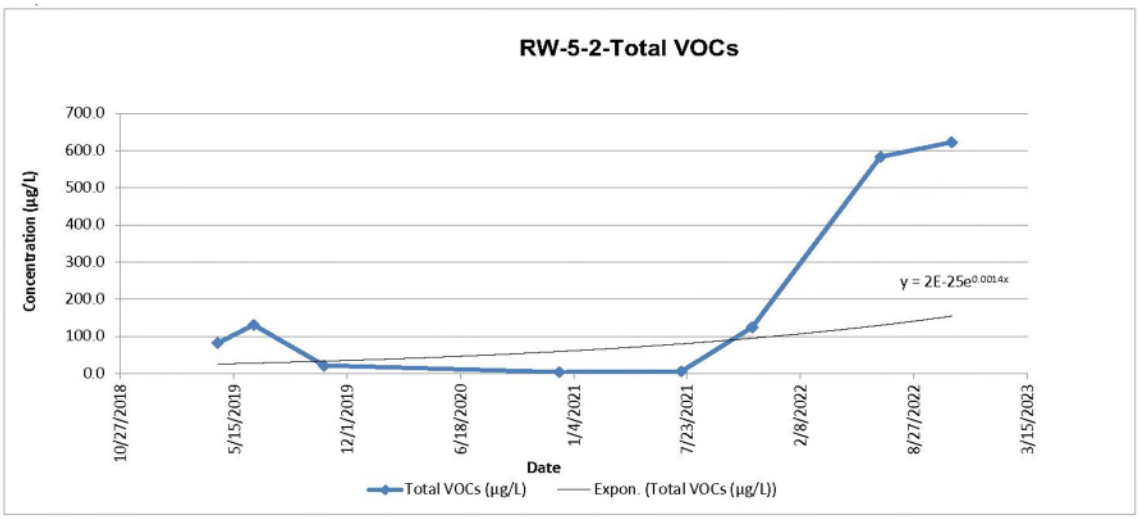


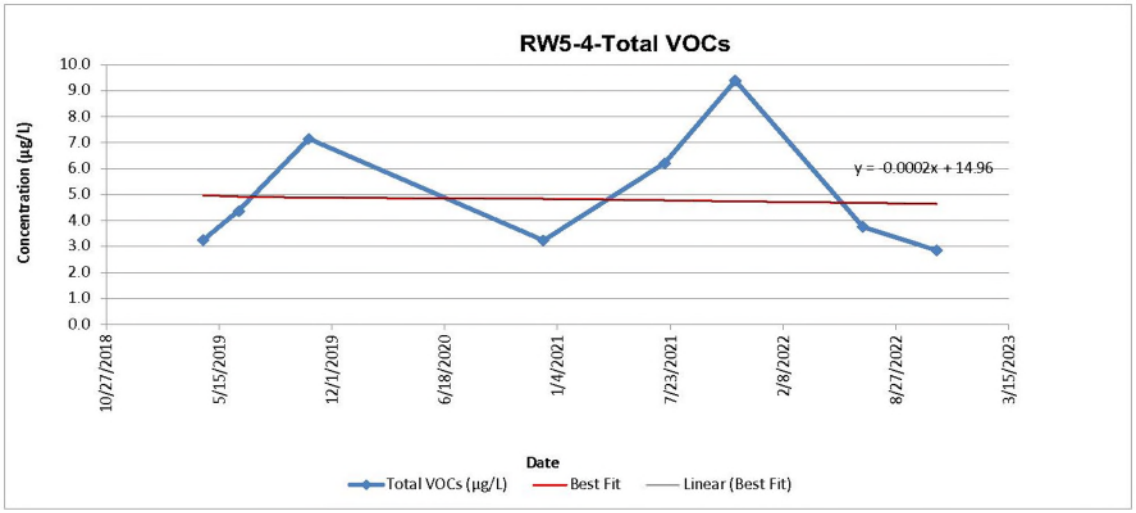


Refer to the tables presented in Appendix E for a listing of the individual VOCs and associated concentrations comprising the total VOC concentrations presented in each graph.

Figure 4-8 – Site 5 – Long Term Trend Data







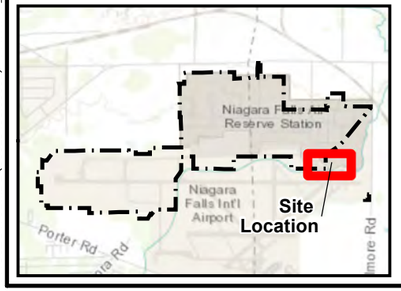
Refer to the tables presented in Appendix E for a listing of the individual VOCs and associated concentrations comprising the total VOC concentrations presented in each graph.

78°56'0"W

43°6'40"N

SW10-5
MW10-5D
MW10-3
SW10-8
MW10-13
MW10-13D
MW10-10D
PW10-2
MW10-1EA
MW10-1F
MW10-1DA
MW10-2
MW10-4
MW10-11
MW10-11D
MW10-8
MW10-4E
MW10-4D
MW10-6
MW10-8D
MW10-7
MW10-12
MW10-12D
PW10-1
TAXIWAY A
TAXIWAY A
MW10-2E
PZ10-7
SW10-6
MW10-9D
SW10-7
MW10-3E
MW10-3D
RUNWAY 6-24
TAXIWAY A

78°56'0"W



Legend

- Overburden Well/Piezometer
- Shallow Bedrock Well/Piezometer
- Deep Bedrock Well
- Surface Water Sample
- Drainage Ditch
- Goundwater Collection Trench
- Installation Boundary

0 100 200
SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

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SITE 10 - MONITORING/SAMPLING LOCATIONS

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
5-1

DIV/GROUP: ENV/MDV DB: PJ01206 LD: PIC: PM: TM:
PROJECT: JBMDL (30028498.00001) PATH: T:_ENVNE_ORC\Niagara\Reports\Annual Report\2022\MXD\NFARS - Section 1\Fig5-1_Niagara_Site10.mxd DATE: 03/21/2023 10:49:48 AM

DIV/GROUP: ENV/IMDV DB: PJI01206 LD: PIC: PM: TM:
PROJECT: JBMDL (30028498.00001) PATH: T:_ENV\NE_ORC\NiagaraReports\Annual Report\2022\MXD\NFARS - Section 1\Fig5-2_Niagara_Site10_OverburdenGWE_Spring2022.mxd DATE: 04/29/2023 12:59:28 PM

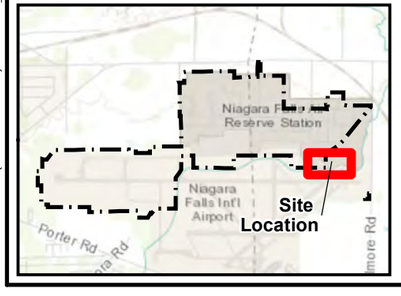
78°56'0"W

78°55'50"W

43°6'40"N

SW10-5 (585.07)
MW10-3 (585.77)
MW10-13 (582.41)
SW10-8 (N/A)
MW10-2 (585.67)
MW10-4 (585.2)
MW10-11 (582.83)
MW10-8 (583.15)
MW10-6 (583.14)
584
MW10-7 (583.75)
MW10-12 (582.85)
PW10-1 (583.06)
582
PZ10-7 (581.95)
SW10-6 (579.65)
SW10-7 (586.66)

TAXIWAY A
TAXIWAY A
TAXIWAY A
RUNWAY 6-24
22



Legend

- Overburden Well/Piezometer
- Surface Water Sample
- (585.67) Groundwater Elevation
- Groundwater Contour
- Groundwater Flow Direction
- Drainage Ditch/Cayuga Creek
- Goundwater Collection Trench
- Installation Boundary

Note:
1.N/A = Not applicable; a water level measurement is not collected at this location

N

0 100 200
SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

2022 Annual Report

SITE 10 - OVERBURDEN GROUNDWATER CONTOUR MAP (SPRING 2022)

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
5-2

78°56'0"W

78°55'50"W

43°6'40"N

SW10-5 (584.79)

MW10-3 (583.56)

SW10-8 (N/A)

MW10-13 (581.24)

MW10-2 (582.35)

MW10-4 (581.65)

MW10-11 (579.90)

MW10-8 (581.79)

MW10-6 (579.56)

MW10-7 (580.27)

MW10-12 (582.36)

PW10-1 (580.40)

PZ10-7 (580.79)

SW10-6 (NM)

SW10-7 (582.73)

584

582

580

582

TAXIWAY A

TAXIWAY A

RUNWAY 6-24

TAXIWAY A

28R-10L

24-6

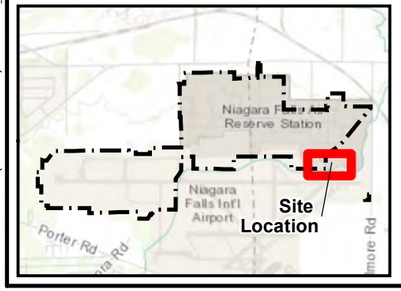
28R-10L

24-6

72

24

28L-RER



Legend

- Overburden Well/Piezometer
- (582.35) Groundwater Elevation
- Surface Water Sample
- Groundwater Contour
- Groundwater Flow Direction
- Drainage Ditch/Cayuga Creek
- Goundwater Collection Trench
- Installation Boundary

Notes:
1. N/A = Not applicable; a water level measurement is not collected at this location
2. NM = Not measured; measurement location was dry

0 100 200

SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

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SITE 10 - OVERBURDEN GROUNDWATER CONTOUR MAP (FALL 2022)

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
5-3

DIV/GROUP: ENV/MDV DB: PJI01206 LD: PIC: PM: TM:
PROJECT: JBMDL (30028498.00001) PATH: T:_ENV\NE_ORC\Niagara\Reports\Annual Report\2022\MXD\NFARS - Section 1\Fig5-3_Niagara_Site10_OverburdenGWE_Fall2022.mxd DATE: 05/01/2023 2:49:18 PM

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PROJECT: JBMDL (30028498.00001) PATH: T:_ENVNE_ORC\NiagaraReports\Annual Report\2022\MXD\NFARS - Section 1\Fig5-4_Niagara_Site10_ShallowGWE_Spring2022.mxd DATE: 05/01/2023 10:12:36 PM

78°56'0"W

78°55'50"W

43°6'40"N

MW10-5D (583.33)

584

MW10-10D (588.78)

586

MW10-13D (582.64)

588

582

PW10-2 (583.53)*

MW10-1DA (584.14)

MW10-4D (584.16)

MW10-11D (581.08)

MW10-8D (NM)

MW10-12D (581.88)

TAXIWAY A

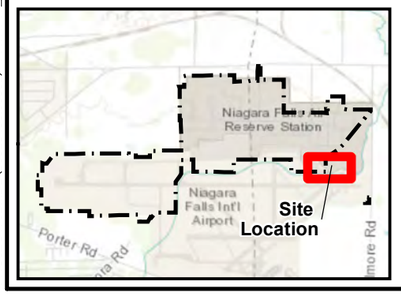
TAXIWAY A

MW10-9D (582.29)

RUNWAY 6-24

TAXIWAY A

MW10-3D (581.83)



Legend

- Shallow Bedrock Well/Piezometer
- (583.33) Groundwater Elevation
- Groundwater Contour
- Groundwater Flow Direction
- Drainage Ditch/Cayuga Creek
- Goundwater Collection Trench
- Installation Boundary

Notes:
1. * = Elevation not used to develop groundwater contours
2. NM = Not measured; location inadvertently omitted

0 100 200
SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

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SITE 10 - SHALLOW BEDROCK GROUNDWATER CONTOUR MAP (SPRING 2022)

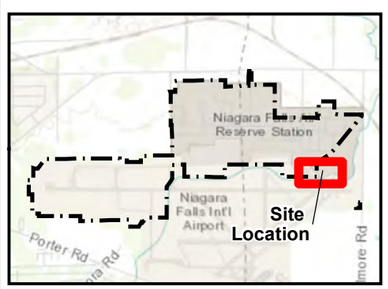
SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
5-4

DIV/GROUP: ENV/IMDV DB: PJI01206 LD: PIC: PM: TM:
PROJECT: JBMDL (30028498.00001) PATH: T:_ENVME_ORC\NiagaraReports\Annual Report\2022\MXD\NFARS - Section 1\Fig5-5_Niagara_Site10_ShallowGWE_Fall2022.mxd DATE: 05/18/2023 7:47:19 PM

78°56'0"W
78°55'50"W
43°6'40"N

MW10-5D (581.74)
582
MW10-13D (581.35)
584
MW10-10D (585.66)
PW10-2 (581.03)*
MW10-1DA (581.75)
MW10-11D (580.33)
580
MW10-8D (NM)
MW10-4D (581.21)
MW10-12D (581.08)
MW10-9D (581.72)
MW10-3D (581.18)
TAXIWAY A
TAXIWAY A
TAXIWAY A
RUNWAY 6-24
22



Legend

- Shallow Bedrock Well/Piezometer
- (581.74) Groundwater Elevation
- Groundwater Contour
- Groundwater Flow Direction
- Drainage Ditch/Cayuga Creek
- Goundwater Collection Trench
- Installation Boundary

Notes:
1. NM = Not measured; location inadvertently omitted.
2. * = Elevation not used to develop groundwater contours.

0 100 200
SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK
2022 Annual Report

SITE 10 - SHALLOW BEDROCK GROUNDWATER CONTOUR MAP (FALL 2022)

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
5-5

DIV/GROUP: ENV/MDV DB: PJI01206 LD: PIC: PM: TM:
PROJECT: JBMDL (30028498.00001) PATH: T:_ENVNE_ORC\Niagara\Reports\Annual Report\2022\MXD\NFARS - Section 1\Fig5-6_Niagara_Site10_DeepGWE_Spring2022.mxd DATE: 04/29/2023 12:32:24 PM

78°56'0"W

78°55'50"W

43°6'40"N

MW10-1EA
(582.75)

MW10-1F
(582.43)

MW10-4E
(583.2)

MW10-2E
(581.88)

582

MW10-3E
(579.9)

580

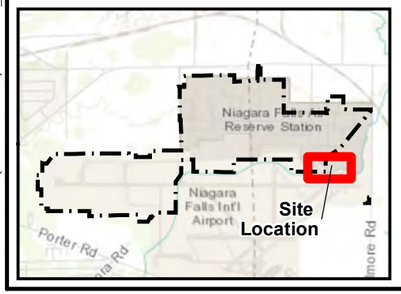
TAXIWAY A

TAXIWAY A

RUNWAY 6-24

12

TAXIWAY A



Legend

- Deep Bedrock Well
- (582.75) Groundwater Elevation
- Groundwater Contour
- Groundwater Flow Direction
- Drainage Ditch/Cayuga Creek
- Installation Boundary

N

0 100 200

SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

2022 Annual Report

SITE 10 - DEEP BEDROCK GROUNDWATER CONTOUR MAP (SPRING 2022)

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
5-6

DIV/GROUP: ENV/MDV DB: PJI01206 LD: PIC: PM: TM:
PROJECT: J&MDL (30028498.00001) PATH: T:_ENV\NE_ORC\Niagara\Reports\Annual Report\2022\MXD\NFARS - Section 1\Fig5-7_Niagara_Site10_DeepGWE_Fall2022.mxd DATE: 04/29/2023 12:39:29 PM

78°56'0"W

78°55'50"W

43°6'40"N

MW10-1EA
(582.63)

MW10-1F
(582.54)

MW10-4E
(582.97)

MW10-2E
(581.84)

MW10-3E
(580.03)

582

580

TAXIWAY A

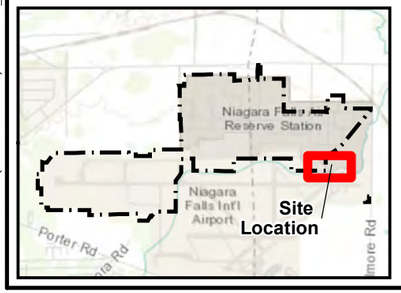
TAXIWAY A

TAXIWAY A

RUNWAY 6-24

12

30



Legend

- Deep Bedrock Well
- (582.63) Groundwater Elevation
- Groundwater Contour
- Groundwater Flow Direction
- Drainage Ditch/Cayuga Creek
- Installation Boundary

0 100 200
SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK
2022 Annual Report

SITE 10 - DEEP BEDROCK GROUNDWATER CONTOUR MAP (FALL 2022)

SERES Engineering & Solutions, LLC
ARCADIS a joint venture

FIGURE
5-7

78°56'0"W

611

PW10-2	
06/30/2022	
Acetone	20.2
Benzene	0.48 J

MW10-3	
06/30/2022	
Acetone	22.2
cDCE	0.60 J

SW10-8	
06/30/2022	
All VOCs	ND

MW10-7	
06/30/2022	
DCE	0.65 J
Acetone	22.8
cDCE	32.9
tDCE	2.1
TCE	1.7
VC	8.3

PW10-1	
06/30/2022	
Acetone	15.8
cDCE	2.1
VC	2.4

PZ10-7	
06/30/2022	
Acetone	24

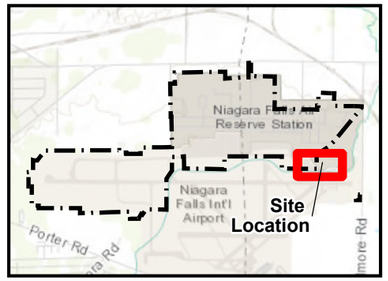
SW10-7	
06/30/2022	
All VOCs	ND

SW10-5 NS
MW10-5D
MW10-13
MW10-13D
MW10-10D
MW10-1EA
MW10-1F
MW10-1DA
MW10-2
MW10-4
MW10-4D
MW10-6
MW10-4E
MW10-8D
MW10-8
MW10-11
MW10-11D
MW10-12
MW10-12D
MW10-2E
MW10-9D
SW10-6 NS
MW10-3E
MW10-3D

TAXIWAY A
TAXIWAY A
TAXIWAY A
RUNWAY 6-24
72

43°6'40"N

78°56'0"W



Legend

- Overburden Well/Piezometer
- Shallow Bedrock Well/Piezometer
- Deep Bedrock Well
- Surface Water Sample
- Drainage Ditch/Cayuga Creek
- Groundwater Collection Trench
- Installation Boundary

Notes:
1. Results are in micrograms per liter (ug/L).
2. Blue shading indicates result is above NYSDEC Class GA Standards.

Abbreviations:
J = Compund detected; estimated concentration
ND = Non-detect
NS = Not sampled; location was dry at time of sample collection

0 100 200
SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

2022 Annual Report

SITE 10 - GROUNDWATER AND SURFACE WATER DETECTIONS (SPRING 2022)

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
5-8

DIV/GROUP: ENV/IMDV DB: PJI01206 LD: PIC: PM: TM:
PROJECT: JBMDL (30028498.00001) PATH: T:_ENV\NE_ORC\Niagara\Reports\Annual Report\2022\MXD\NFARS - Section 1\Fig5-8_Niagara_Site10_GROUNDWATER DETECTIONS (SPRING 2022).mxd DATE: 05/01/2023 10:22:56 PM

78°56'0"W

SW10-5	
11/08/2022	
Iodomethane	0.78 JB+

MW10-1DA	
11/08/2022	
Benzene	3.2
cDCE	3.2
VC	10.8

MW10-4E	
11/08/2022	
cDCE	7.2
VC	0.55 J

PW10-1	
11/8/2022	
Acetone	15.8
cDCE	1.1
VC	1.8

SW10-7	
11/08/2022	
All VOCs	ND

MW10-3D	
11/08/2022	
Iodomethane	0.96 JB+

MW10-10D	
11/8/2022	
2-Hexanone (MBK)	819
Chloroform	29.2 JB+
cDCE	534
Toluene	16.5 J
TCE	24.8
VC	42.2

SW10-8	
11/08/2022	
Chloroform	0.79 JB+

PW10-2	
11/08/2022	
Benzene	1.6

MW10-4D	
11/08/2022	
Benzene	1.3
cDCE	3.7
VC	4.3

MW10-9D	
11/08/2022	
cDCE	6.6
VC	16.6

MW10-5D, MW10-3, MW10-13, MW10-13D, MW10-1EA, MW10-1F, MW10-2, MW10-4, MW10-8, MW10-8D, MW10-6, MW10-7, MW10-11, MW10-11D, MW10-12D, MW10-12, MW10-2E, PZ10-7, SW10-6 NS, MW10-3E

TAXIWAY A

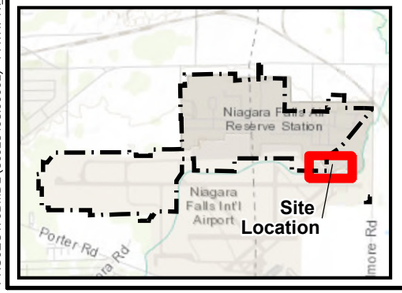
RUNWAY 6-24

TAXIWAY A

TAXIWAY A

43°6'40"N

78°56'0"W



Legend

- Overburden Well/Piezometer
- Shallow Bedrock Well/Piezometer
- Deep Bedrock Well
- Surface Water Sample
- Drainage Ditch/Cayuga Creek
- Groundwater Collection Trench
- Installation Boundary

Notes:
1. Results are in micrograms per liter (ug/L).
2. Blue shading indicates result is above NYSDEC Class GA Standards.

Abbreviations:
B = Compound detected in method blank, trip blank, or both
J = Compound detected, estimated concentration
J+ = Compound detected, estimated concentration that may be biased high
ND = Non-detect
NS = Not sampled; locationwas dry at time of sample collection

N

0 100 200

SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

2022 Annual Report

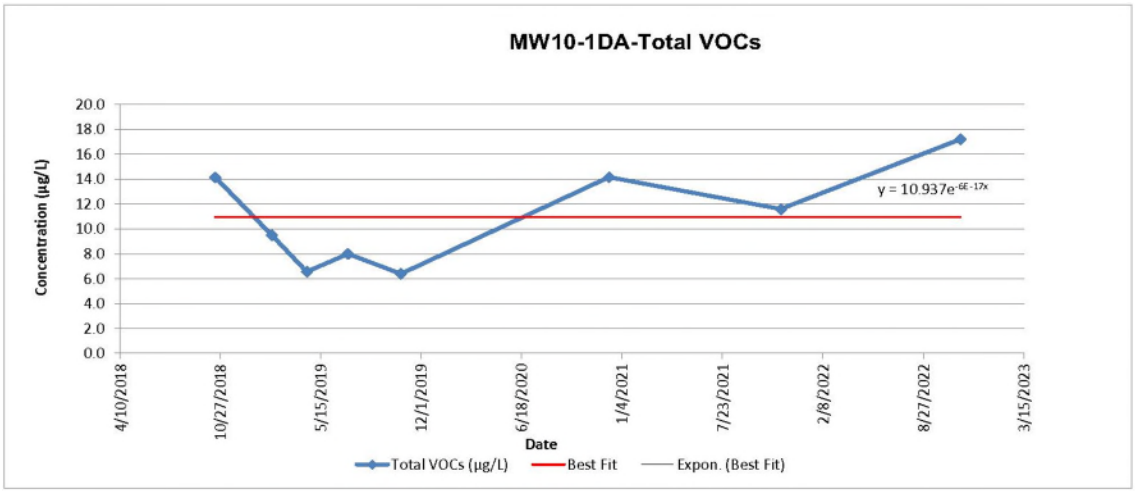
SITE 10 - GROUNDWATER AND SURFACE WATER DETECTIONS (FALL 2022)

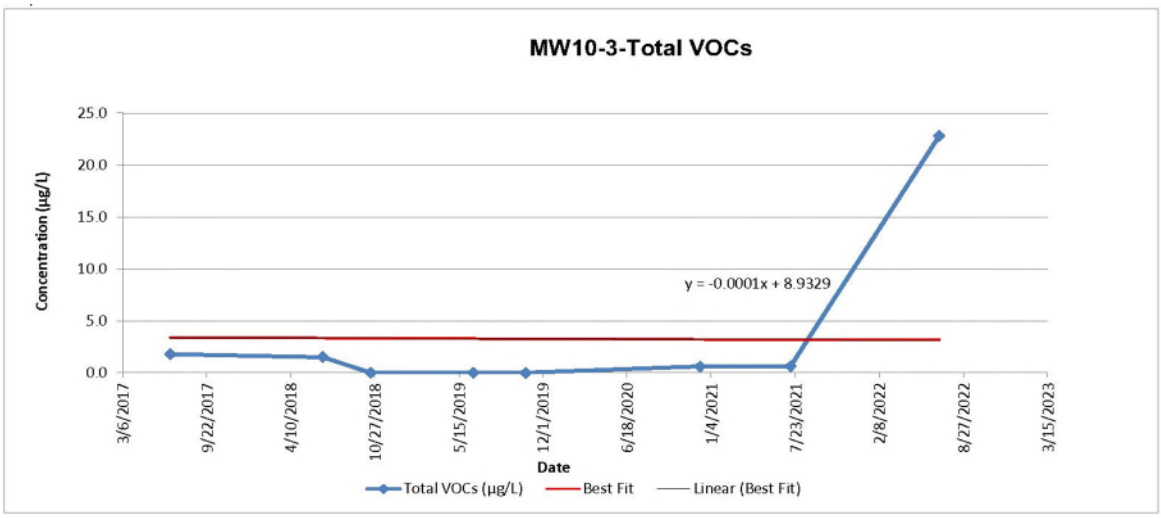
SERES Engineering & Services, LLC
ARCADIS a joint venture

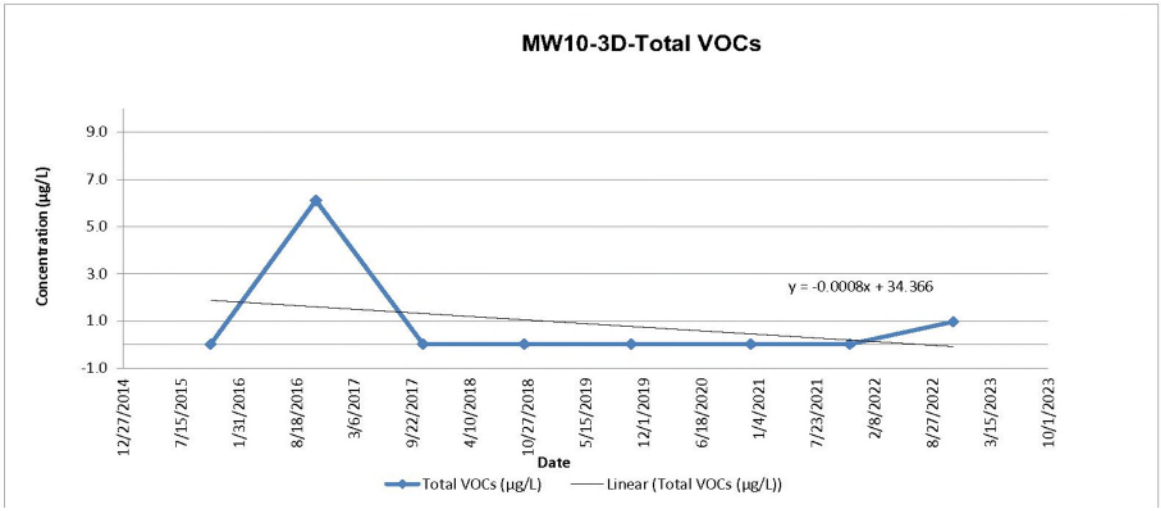
FIGURE
5-9

DIV/GROUP: ENV/IMDV DB: PJ01206 LD: PIC: PM: TM:
PROJECT: JBMDL (30028498.00001) PATH: T:_ENV\NE_ORC\Niagara\Reports\Annual Report\2022\MXD\NFARS - Section 1\Fig5-9_Niagara_Site10_Detections (FALL 2022).mxd DATE: 05/18/2023 7:50:23 PM

Figure 5-10 – Site 10 – Long Term Trend Data

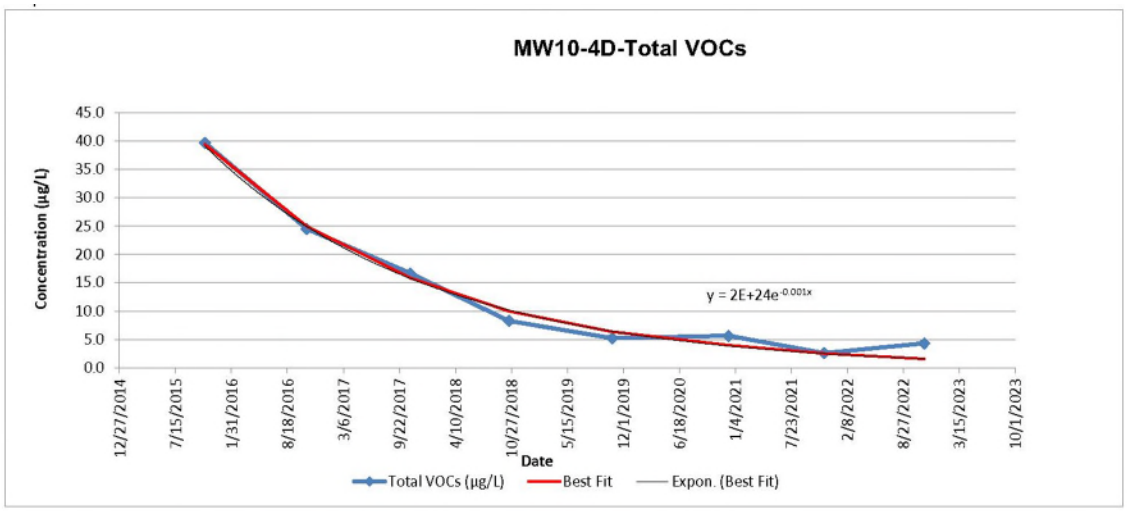


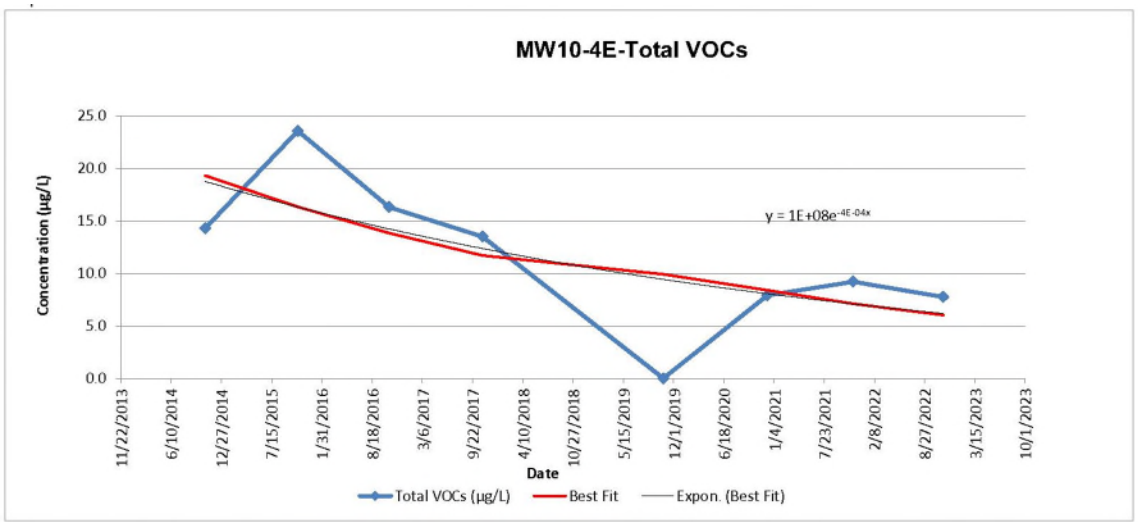


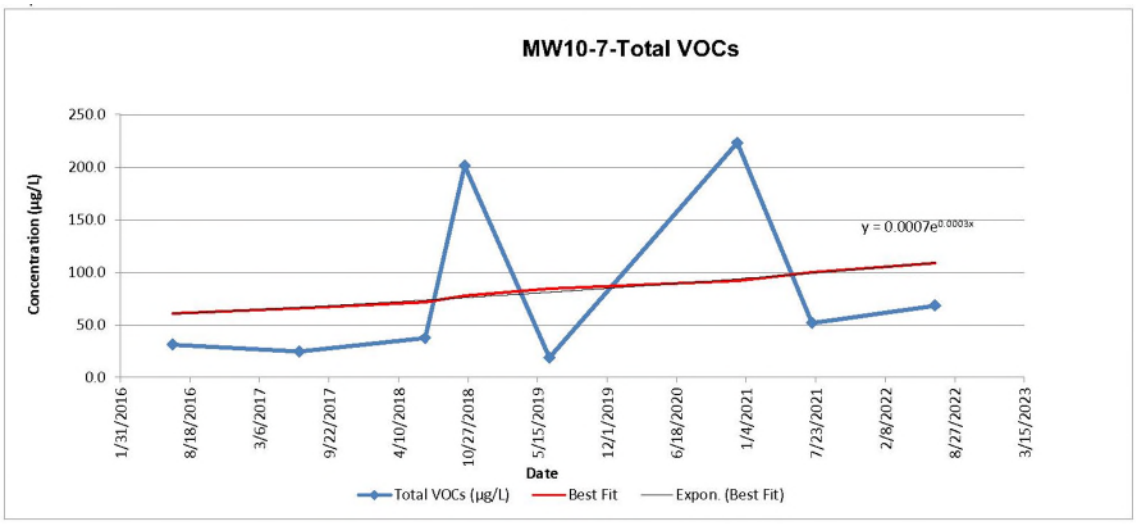


Refer to the tables presented in Appendix E for a listing of the individual VOCs and associated concentrations comprising the total VOC concentrations presented in each graph.

Figure 5-10 – Site 10 – Long Term Trend Data

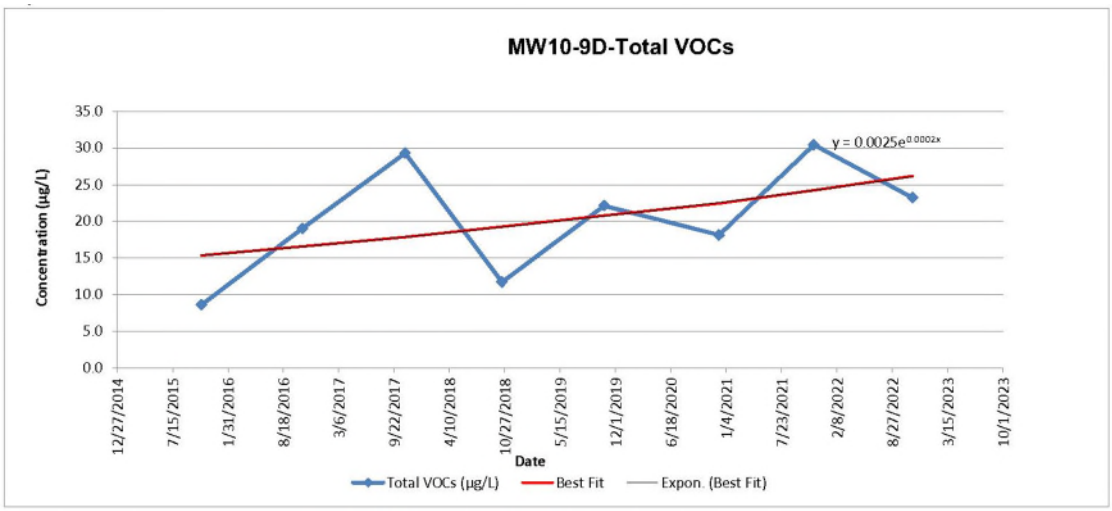


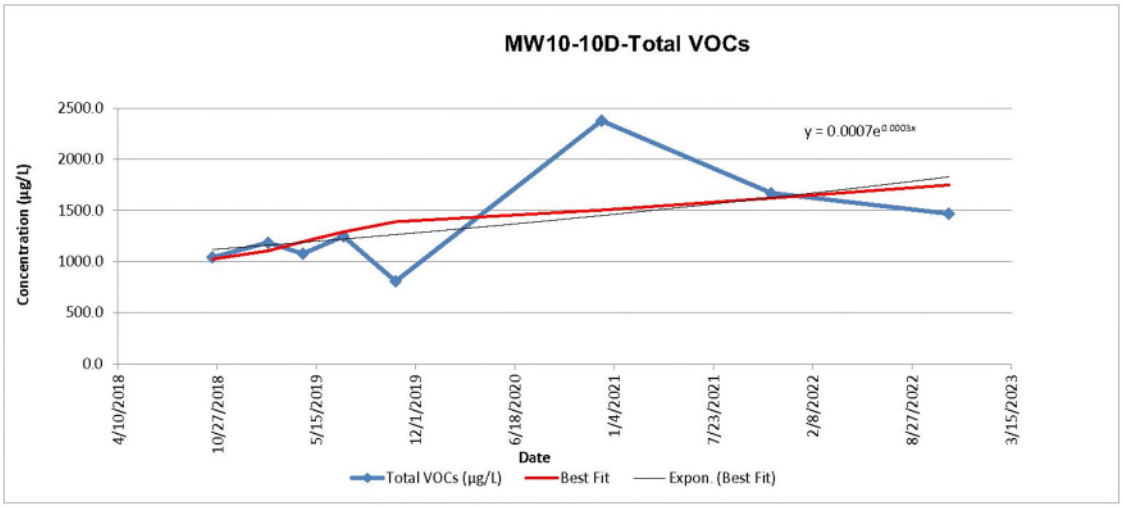


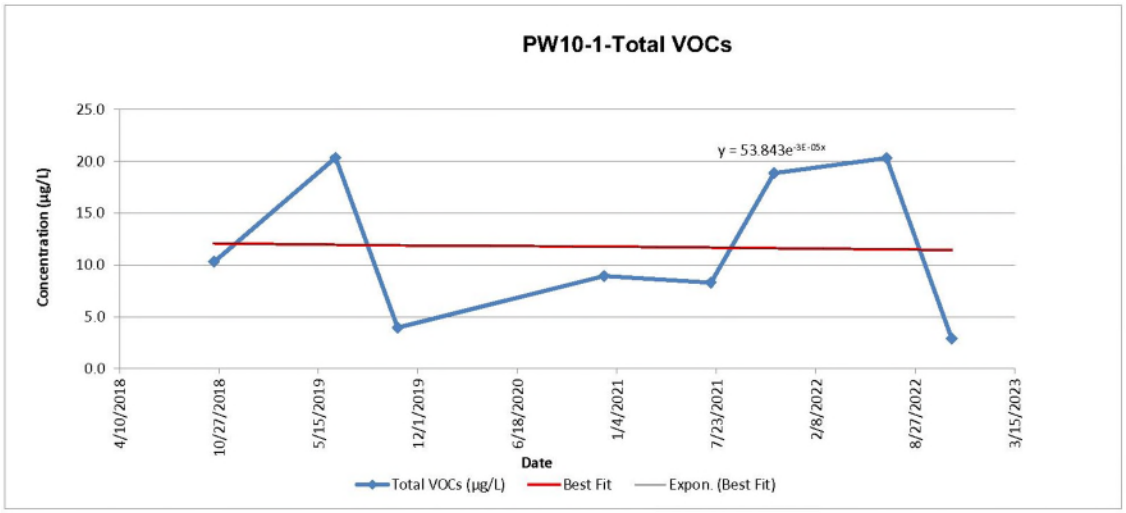


Refer to the tables presented in Appendix E for a listing of the individual VOCs and associated concentrations comprising the total VOC concentrations presented in each graph.

Figure 5-10 – Site 10 – Long Term Trend Data

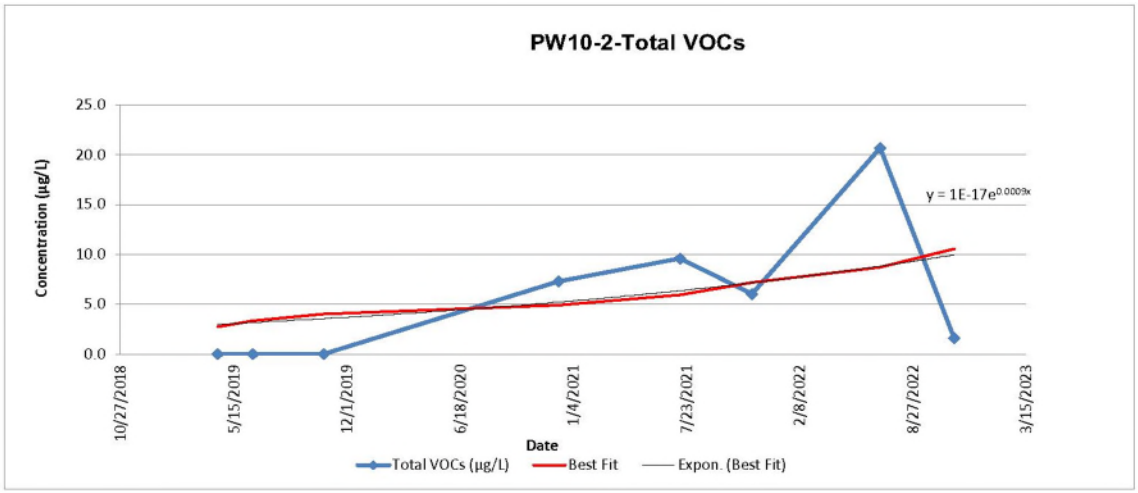


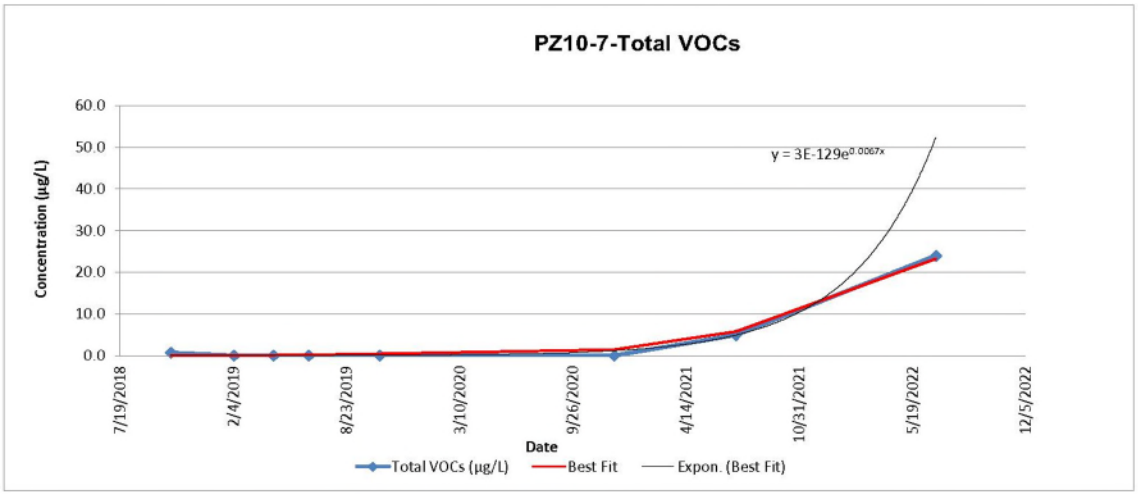




Refer to the tables presented in Appendix E for a listing of the individual VOCs and associated concentrations comprising the total VOC concentrations presented in each graph.

Figure 5-10 – Site 10 – Long Term Trend Data





Refer to the tables presented in Appendix E for a listing of the individual VOCs and associated concentrations comprising the total VOC concentrations presented in each graph.

78°57'0"W

78°56'50"W

KIRSCH DR

RUBIN WAY

WAGNER DR

BLEWETT AVE

MW5-8D

MW13-1D

MW13-1

MW13-5A

PZ13-3D

MW13-1E

MW13-3

PZ13-4D

PZ13-4

PW13-1

MW13-5D

MW13-4

MW13-2D

MW13-6

MW13-6D

PZ13-2

PZ13-2D

MW13-4D

PW13-4D

MW13-3D

PZ13-1D

PZ13-1

910

901

2551

904

923

912

906

915

902

914

USAF-R
WEST RAMP

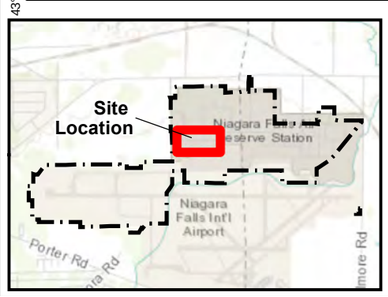
936

907

917

43°6'55"N

43°6'50"N



Legend

- Overburden Well/Piezometer
- Shallow Bedrock Well/Piezometer
- Deep Bedrock Well
- Fence
- Installation Boundary

0 100 200

SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

2022 Annual Report

SITE 13 - MONITORING/SAMPLING LOCATIONS

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
6-1

DIV/GROUP: ENV/IMDV DB: PJI01206 LD: PIC: PM: TM:
PROJECT: JBMDL (30028498.00001) PATH: T:_ENVWE_ORC\NiagaraReports\Annual Report\2022\MXD\NFARS - Section 1\Fig6-1_Niagara_Site13.mxd DATE: 03/21/2023 2:49:19 PM

DIV/GROUP: ENV/IMDV DB: PJI01206 LD: PIC: PM: TM:
PROJECT: JBMDL (30028498.00001) PATH: T:_ENVME_ORC\NiagaraReports\Annual Report\2022\MXD\NFARS - Section 1\Fig6-2_Niagara_Site13_OverburdenGWE_Spring2022.mxd DATE: 05/18/2023 7:52:29 PM

78°57'0"W

78°56'50"W

43°6'56"N

43°6'52"N

KIRSCH DR

RUBIN WAY

WAGNER DR

BLEWETT AVE

901

910

923

2551

904

902

912

906

915

907

914

917

936

USAF-R
WEST RAMP

MW13-1
(591.81)

MW13-5A
(591.44)

MW13-3
(591.96)

MW13-4
(590.94)

PZ13-4
(592.56)

MW13-6
(591.03)

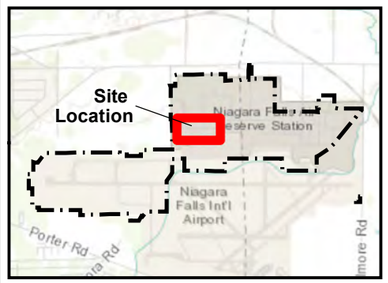
PZ13-2
(595.36)*

PZ13-1
(592.71)

590

592

594



Legend

- Overburden Well/Piezometer
- (591.81) Groundwater Elevation
- Groundwater Contour
- Groundwater Flow Direction
- Fence
- Installation Boundary

Note:
1. * = Elevation not used to develop groundwater contours

0 100 200
SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

2022 Annual Report

SITE 13 - OVERBURDEN GROUNDWATER CONTOUR MAP (SPRING 2022)

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
6-2

DIV/GROUP: ENV/IMDV DB: PJI01206 LD: PIC: PM: TM:
PROJECT: JBMDL (30028498.00001) PATH: T:_ENV\NE_ORC\NiagaraReports\Annual Report\2022\MXD\NFARS - Section 1\Fig6-3_Niagara_Site13_OverburdenGWE_Fall2022.mxd DATE: 04/29/2023 1:02:13 PM

78°57'0"W 78°56'50"W

43°6'56"N 43°6'52"N

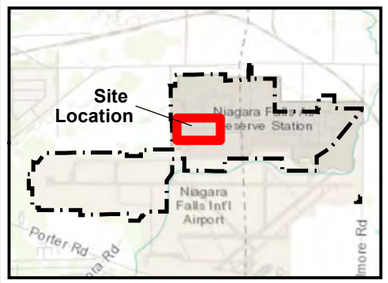
KIRSCH DR
RUBIN WAY
WAGNER DR
BLEWETT AVE

901 902 904 906 907 910 912 914 915 917 923 936 2551

USAF-R WEST RAMP

MW13-1 (590.85)
MW13-5A (588.51)
PZ13-4 (591.45)
MW13-4 (589.36)
MW13-3 (590.29)
MW13-6 (589.73)
PZ13-2 (595.99)
PZ13-1 (NM)

588 590 592 594 596



Legend

- Overburden Well/Piezometer
- (590.85) Groundwater Elevation
- Groundwater Contour
- Groundwater Flow Direction
- Fence
- Installation Boundary

Note:
1. NM = Not measured; piezometer was dry

0 100 200
SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

2022 Annual Report

SITE 13 - OVERBURDEN GROUNDWATER CONTOUR MAP (FALL 2022)

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
6-3

DIV/GROUP: ENV/IMDV DB: PJI01206 LD: PIC: PM: TM:
PROJECT: JBMDL (30028498.00001) PATH: T:_ENV\NE_ORC\Niagara\Reports\Annual Report\2022\MXD\NFARS - Section 1\Fig6-4_Niagara_Site13_ShallowGWE_Spring2022.mxd DATE: 05/01/2023 4:42:32 PM

78°57'0"W

78°56'50"W

43°6'56"N

43°6'52"N

KIRSCH DR

RUBIN WAY

WAGNER DR

BLEWETT AVE

901

902

907

910

912

914

915

917

923

936

2551

904

906

USAF-R
WEST RAMP

MW5-8D

MW13-1D
(592.46)

PZ13-3D
(590.87)

MW13-1E
(590.89)

MW13-5D
(591.46)

PZ13-4D
(592.22)

PW13-1
(590.73)

MW13-2D
(592.14)

MW13-6D
(590.90)

PZ13-2D
(587.40)*

PW13-4D
(589.39)*

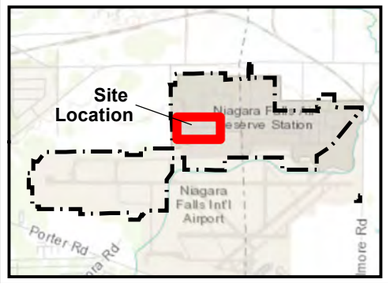
MW13-4D
(592.72)

PZ13-1D
(592.54)

MW13-3D
(591.38)

592

590



Legend

- Shallow Bedrock Well/Piezometer
- Deep Bedrock Well
- (590.73) Groundwater Elevation
- Groundwater Contour
- Groundwater Flow Direction
- Fence
- Installation Boundary

Note:
1. * = Elevation not used to develop groundwater contours

0 100 200
SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

2022 Annual Report

SITE 13 - SHALLOW BEDROCK GROUNDWATER CONTOUR MAP (SPRING 2022)

SERES Engineering & Solutions, LLC
ARCADIS a joint venture

FIGURE
6-4

DIV/GROUP: ENV/IMDV DB: PJI01206 LD: PIC: PM: TM:
PROJECT: JBMDL (30028498.00001) PATH: T:_ENV\ME_ORC\NiagaraReports\Annual Report\2022\MXD\NFARS - Section 1\Fig6-5_Niagara_Site13_ShallowGWE_Fall2022.mxd DATE: 04/29/2023 1:04:27 PM

78°57'0"W
78°56'50"W
43°6'56"N
43°6'52"N

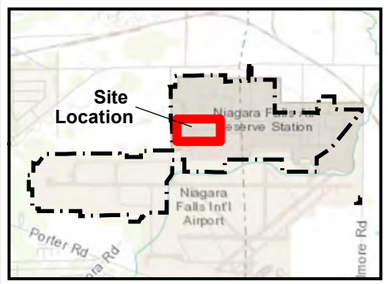
KIRSCH DR
RUBIN WAY
WAGNER DR
BLEWETT AVE

MW5-8D
MW13-1D (590.47)
PZ13-3D (NM)
MW13-1E (582.93)*
MW13-5D (589.58)
PZ13-4D (590.87)
PW13-1 (589.46)
MW13-2D (589.02)*
MW13-6D (587.93)
PZ13-2D (591.35)
PW13-4D (589.13)*
MW13-4D (590.56)
PZ13-1D (590.48)
MW13-3D (585.42)

588
586
590

901
902
907
910
912
914
915
917
923
936
2551
904
906

USAF-R
WEST RAMP



Legend

- Shallow Bedrock Well/Piezometer
- Deep Bedrock Well
- (590.56) Groundwater Elevation
- Groundwater Contour
- Groundwater Flow Direction
- Fence
- Installation Boundary

Notes:
1. * = Elevation not used to develop groundwater contours
2. NM = Not measured; piezometer inaccessible due to construction trenching

0 100 200
SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

2022 Annual Report

SITE 13 - SHALLOW BEDROCK GROUNDWATER CONTOUR MAP (FALL 2022)

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 6-5

DIV/GROUP: ENV/MDV DB: PJI01206 LD: PIC: PM: TM:
PROJECT: JBMDL (30028498.00001) PATH: T:_ENVNE_ORC\Niagara\Reports\Annual Report\2022\MXD\NFARS - Section 1\Fig6-6_Niagara_Site13_GROUNDWATER DETECTIONS (SPRING 2022).mxd DATE: 04/29/2023 11:08:45 AM

78°57'0"W

78°56'50"W

43°6'55"N

43°6'50"N

KIRSCH DR

RUBIN WAY

WAGNER DR

BLEWETT AVE

MW5-8D

910

901

923

2551

PW13-1

06/29/2022

cDCE	11.7
tDCE	0.45 J
TCE	0.97 J
VC	4.7

MW13-1D

MW13-1

MW13-5

PZ13-3D

MW13-5D

06/29/2022

cDCE	36.0
tDCE	0.39 J
VC	1.3

PZ13-4D

PZ13-4

MW13-1E

MW13-3

MW13-4

MW13-2D

MW13-6

MW13-6D

906

912

915

902

PZ13-2

PZ13-2

MW13-3

MW13-4D

06/29/2022

cDCE	10.1
VC	5.7

PW13-4D

06/29/2022

cDCE	3.7

PZ13-1D

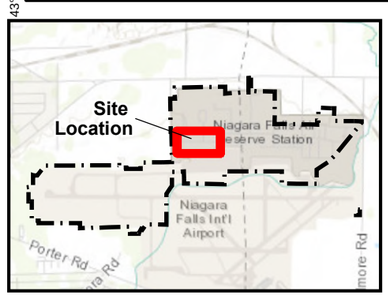
PZ13-1

USAF-R
WEST RAMP

936

907

917



Legend

- Overburden Well/Piezometer
- Shallow Bedrock Well/Piezometer
- Deep Bedrock Well
- Fence
- Installation Boundary

Notes:
1. Results are in micrograms per liter (ug/L).
2. Blue shading indicates result is above NYSDEC Class GA Standards.

Abbreviation:
J = Compound detected, estimated concentration

0 100 200

SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

2022 Annual Report

SITE 13 - GROUNDWATER DETECTIONS (SPRING 2022)

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
6-6

DIV/GROUP: ENV/IMDV DB: PJI01206 LD: PIC: PM: TM:
PROJECT: J6MDL (300284980.00001) PATH: T:_ENV\NE_ORC\Niagara\Reports\Annual Report\2022\MXD\NFARS - Section 1\Fig6-7_Niagara_Site13_GroundwaterDetections(FALL 2022).mxd DATE: 04/29/2023 11:10:57 AM

78°57'0"W 78°56'50"W

43°6'55"N

KIRSCH DR
RUBIN WAY
WAGNER DR
BLEWETT AVE

901 910 923 2551 904 906 912 915 902 907 936 917

MW5-8D
MW13-1D
MW13-1
MW13-5
PZ13-3D
MW13-1E
PZ13-4D
PZ13-4
MW13-3
MW13-4
MW13-2D
MW13-6
MW13-6D
PZ13-2
PZ13-2
MW13-3
PZ13-1D
PZ13-1

PW13-1	
11/07/2022	
cDCE	0.85 J

MW13-5D	
11/07/2022	
cDCE	21.6
VC	0.52 J

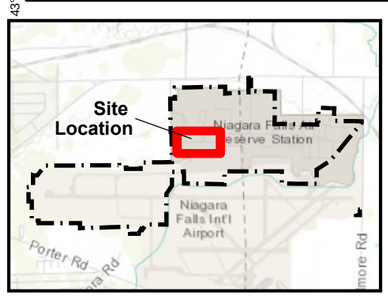
MW13-4D	
11/07/2022	
cDCE	4.8

PW13-4D	
11/07/2022	
cDCE	6.7
VC	1.0

USAF-R
WEST RAMP

43°6'50"N

78°57'0"W 78°56'50"W



Legend

- Overburden Well/Piezometer
- Shallow Bedrock Well/Piezometer
- Deep Bedrock Well
- Fence
- Installation Boundary

Notes:
1. Results are in micrograms per liter (ug/L).
2. Blue shading indicates result is above NYSDEC Class GA Standards.

Abbreviation:
J = Compound detected, estimated concentration

0 100 200
SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

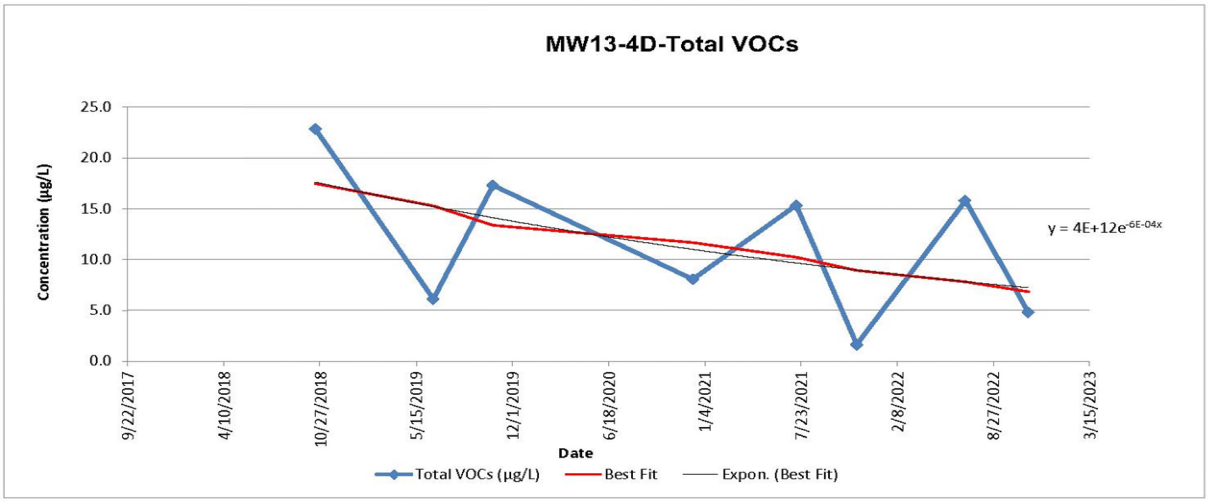
2022 Annual Report

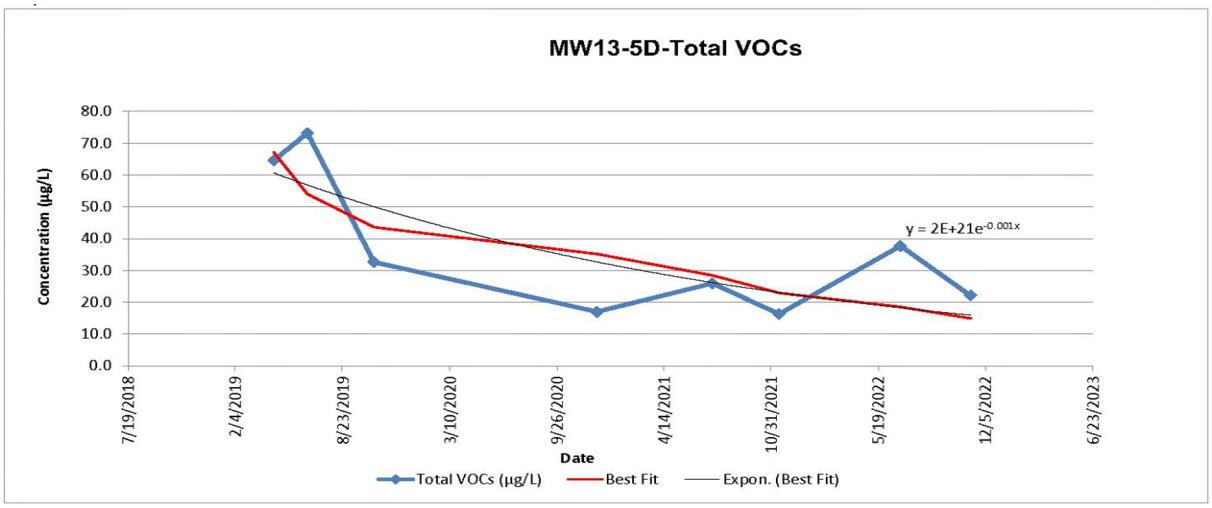
SITE 13 - GROUNDWATER DETECTIONS (FALL 2022)

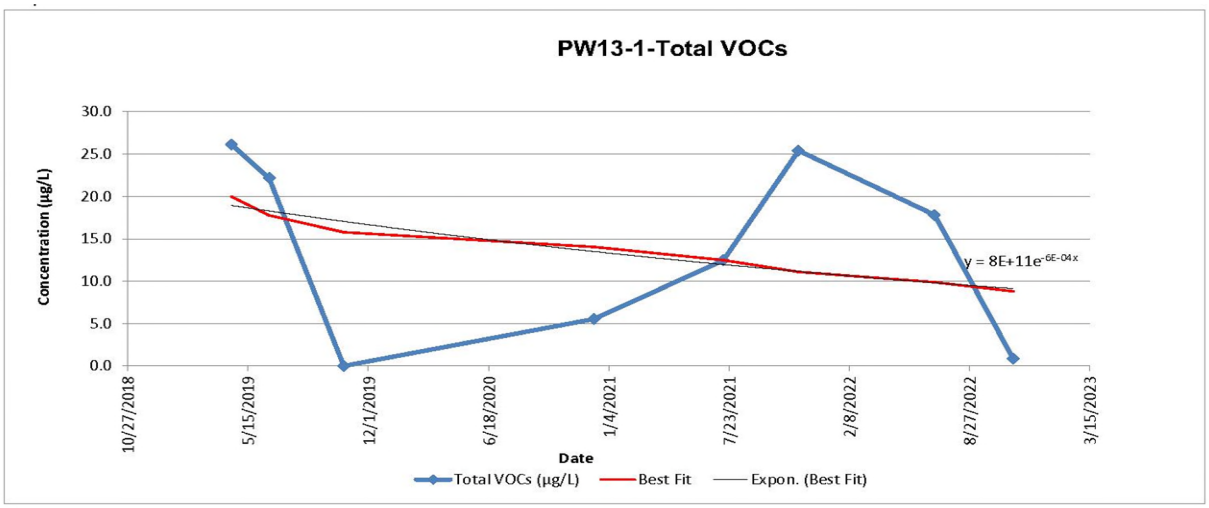
SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
6-7

Figure 6-8 – Site 13 – Long Term Trend Data

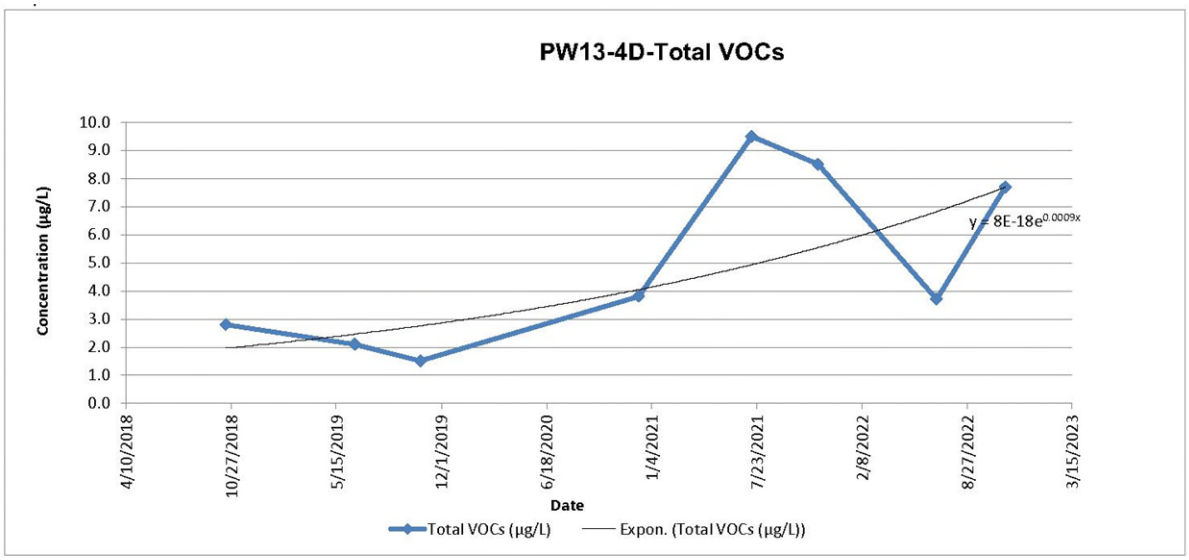






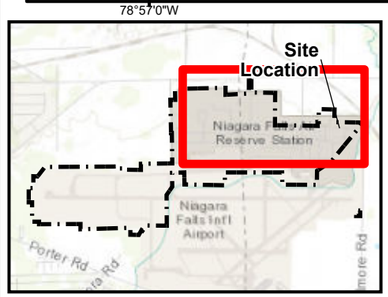
Refer to the tables presented in Appendix E for a listing of the individual VOCs and associated concentrations comprising the total VOC concentrations presented in each graph.

Figure 6-8 – Site 13 – Long Term Trend Data



Refer to the tables presented in Appendix E for a listing of the individual VOCs and associated concentrations comprising the total VOC concentrations presented in each graph.





Legend

- Deep Bedrock Well
- Overburden Well/Piezometer
- Shallow Bedrock Well/Piezometer
- Surface Water Location
- Approximate Extent of Former Landfill
- Installation Boundary

Note:
1. ND = Non-detect

0 420 840
SCALE IN FEET

NIAGARA FALLS AIR RESERVE STATION
NEW YORK

2022 Annual Report

BACKGROUND DATA

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE
7-1

DIV/GROUP: ENV/IMDV DB: AVI00815 LD: PIC: PM: TM:
PROJECT: JBMDL (30028498.00001) PATH: T:_ENV\NE_ORC\Niagara\Reports\Annual Report\2022\ArcPro\NFARS_Section1\NFARS_Section1.aprx DATE: 3/20/2024 5:39 PM

Appendix A

Water Level Data

Table A-1
Groundwater Elevations
2022 Annual Comprehensive Sampling/Monitoring Report
Installation-Wide Groundwater Monitoring Program
Niagara Falls Air Reserve Station, New York

SERES Engineering & Services, LLC
ARCADIS
a joint venture

Location	Top of Inside Casing Elevation (ft amsl)	Spring Event (6/7 June 2022)			Fall Event (24/25 October 2022)		
		Water Depth (ft)	WL Elevation (ft amsl)	Well Depth (ft)	Water Depth (ft)	WL Elevation (ft amsl)	Well Depth (ft)
Former Site 1							
MW1-1DA	605.61	9.37	596.24	24.20	10.73	594.88	24.23
MW1-7A	605.71	5.13	600.58	13.31	7.64	598.07	13.18
Former Site 2							
MPL2-1A	603.29	2.84	600.45	13.51	7.06	596.23	13.64
MW2-1DA	599.39	0.77	598.62	14.59	3.64	595.75	14.66
Site 3							
MW3-1A	603.65	5.67	597.98	13.61	5.21	598.44	13.56
MW3-1DA	593.29	4.92	588.37	16.26	4.66	588.63	16.19
MW3-1E	591.51	1.12	590.39	44.35	1.51	590.00	44.35
MW3-2	598.44	3.17	595.27	10.50	5.49	592.95	10.12
MW3-2DA	599.02	4.83	594.19	22.01	9.20	589.82	22.22
MW3-3A	588.23	2.14	586.09	5.30	1.28	586.95	5.30
MW3-3DA	590.14	0.12	590.02	17.19	0.43	589.71	17.17
MW3-4DA	590.14	0.91	589.23	15.88	1.31	588.83	15.81
MW3-5D	594.96	4.83	590.13	25.84	5.21	589.75	25.79
MW3-6A	602.26	6.75	595.51	11.20	7.17	595.09	11.12
MW3-6D	602.05	6.23	595.82	19.23	6.76	595.29	19.20
MW3-7	591.14	5.89	585.25	7.55	4.51	586.63	7.59
MW3-8	603.84	6.71	597.13	12.93	8.72	595.12	12.94
MW3-8D	603.67	12.52	591.15	12.93	13.12	590.55	23.89
MW3-8E	603.69	12.85	590.84	46.93	13.19	590.50	46.59
PW3-3A	588.09	0.67	587.42	13.97	0.87	587.22	13.85
PZ3-1	591.71	2.62	589.09	5.85	4.84	586.87	5.83
PZ3-1D	591.75	2.37	589.38	12.14	2.69	589.06	12.12
PZ3-2	590.12	1.43	588.69	4.16	1.23	588.89	4.20
PZ3-2D	590.52	1.73	588.79	12.80	1.62	588.90	12.58
PZ3-3	588.14	Standing Water Present at Ground Surface			0.27	587.87	2.47
PZ3-3D	588.62	0.12	588.50	9.42	0.39	588.23	9.57
PZ3-4	589.95	2.83	587.12	3.55	2.49	587.46	3.51
PZ3-4D	590.52	1.13	589.39	11.59	1.43	589.09	11.67
PZ3-5	589.68	Standing Water Present at Ground Surface			0.49	589.19	2.89
PZ3-5D	589.57	Standing Water Present at Ground Surface			0.15	589.42	9.94
PZ3-6	588.34	0.98	587.36	3.46	1.23	587.11	3.42
PZ3-6D	587.90	Standing Water Present at Ground Surface			Standing Water Present at Ground Surface		
PZ3-7D	593.01	2.37	590.64	21.71	3.43	589.58	21.73
PZ3-8D	592.12	0.81	591.31	4.07	3.90	588.22	18.38
PZ3-9	588.70	2.57	586.13	4.07	1.16	587.54	3.99
PZ3-9D	588.50	0.83	587.67	23.79	1.27	587.23	23.97
Site 5							
CH5-01	597.21	10.44	586.77	30.00	9.88	587.33	17.42
CH5-02	597.07	10.50	586.57	32.51	9.72	587.35	32.35
CH5-03	597.74	8.40	589.34	32.14	9.98	587.76	32.54
CH5-04	597.60	10.23	587.37	14.12	9.04	588.56	32.80
MW5-1A	600.42	11.92	588.50	16.04	10.57	589.85	16.20
MW5-1DA	600.07	13.24	586.83	28.77	12.65	587.42	28.91
MW5-1E	596.39	12.70	583.69	57.41	12.22	584.17	57.46
MW5-2D	600.8	13.57	587.23	26.44	12.42	588.38	26.58
MW5-3D	600.5	13.49	587.01	25.03	12.58	587.92	25.17
MW5-4	599.42	12.37	587.05	15.60	10.81	588.61	15.74
MW5-4D	597.34	11.11	586.23	26.08	18.91	578.43	26.14
MW5-5A	600.8	14.18	586.62	20.04	13.33	587.47	20.18
MW5-5D	597.12	10.34	586.78	27.19	9.88	587.24	27.39
MW5-6	596.42	7.46	588.96	13.40	7.74	588.68	13.66

Table A-1
Groundwater Elevations
2022 Annual Comprehensive Sampling/Monitoring Report
Installation-Wide Groundwater Monitoring Program
Niagara Falls Air Reserve Station, New York

Location	Top of Inside Casing Elevation (ft amsl)	Spring Event (6/7 June 2022)			Fall Event (24/25 October 2022)		
		Water Depth (ft)	WL Elevation (ft amsl)	Well Depth (ft)	Water Depth (ft)	WL Elevation (ft amsl)	Well Depth (ft)
Site 5 (continued)							
MW5-6D	594.94	5.81	589.13	22.99	6.40	588.54	23.10
MW5-7	596.46	6.34	590.12	12.97	7.96	588.50	13.12
MW5-7D	595.14	7.33	587.81	22.11	6.62	588.52	22.34
MW5-8	594.14	6.91	587.23	10.55	5.79	588.35	10.69
MW5-8D	593.95	9.30	584.65	15.92	8.63	585.32	20.52
RW5-1	596.88	7.20	589.68	14.55	8.56	588.32	14.70
RW5-2	595.46	6.30	589.16	11.09	6.45	589.01	11.24
RW5-3	597.50	8.94	588.56	32.35	8.59	588.91	14.13
RW5-4	597.16	8.44	588.72	14.70	8.63	588.53	14.79
Former Site 6							
MPL6-2A	601.30	5.33	595.97	14.40	8.39	592.91	14.42
MPL6-3	601.58	4.96	596.62	15.64	7.97	593.61	15.83
Site 8							
CH8-01	597.93	7.87	590.06	31.10	8.32	589.61	31.24
MW8-1	598.87	8.34	590.53	13.64	8.63	590.24	13.83
MW8-1E	598.52	16.66	581.86	50.68	16.41	582.11	50.82
MW8-2D	600.57	10.84	589.73	30.10	11.21	589.36	30.19
MW8-3	599.06	9.63	589.43	11.61	10.06	589.00	14.79
MW8-3DA	601.24	11.61	589.63	26.77	11.89	589.35	26.81
MW8-4A	600.40	10.42	589.98	14.99	11.12	589.28	15.13
MW8-4D	598.41	9.42	588.99	22.47	9.46	588.95	22.62
MW8-5A	600.02	10.14	589.88	15.06	10.14	589.88	15.21
MW8-8	600.18	10.88	589.30	13.85	11.24	588.94	14.08
MW8-10D	600.17	10.54	589.63	24.76	10.85	589.32	24.92
MW8-11	602.28	13.17	589.11	16.68	13.62	588.66	16.63
MW8-11D	601.99	12.13	589.86	27.42	12.60	589.39	27.42
MW8-11E	602.02	13.39	588.63	50.13	13.39	588.63	49.81
Site 10							
MW10-1DA	588.55	4.41	584.14	22.96	6.80	581.75	23.06
MW10-1EA	588.90	6.15	582.75	39.77	6.27	582.63	39.95
MW10-1F	588.73	6.30	582.43	59.37	6.19	582.54	59.31
MW10-2	590.38	4.71	585.67	8.77	8.03	582.35	8.94
MW10-2E	587.33	5.45	581.88	47.24	5.49	581.84	47.28
MW10-3	590.50	4.73	585.77	9.38	6.94	583.56	9.60
MW10-3D	586.26	4.43	581.83	25.85	5.08	581.18	25.98
MW10-3E	586.19	6.29	579.90	43.53	6.16	580.03	43.48
MW10-4	589.37	4.17	585.20	8.02	7.72	581.65	8.23
MW10-4D	587.76	3.60	584.16	19.97	6.55	581.21	20.12
MW10-4E	588.15	4.95	583.20	40.79	5.18	582.97	40.87
MW10-5D	589.05	5.72	583.33	19.67	7.31	581.74	19.86
MW10-6	586.35	3.21	583.14	9.63	6.79	579.56	9.80
MW10-7	587.29	3.54	583.75	9.00	7.02	580.27	9.13
MW10-8	588.02	4.87	583.15	9.33	6.23	581.79	9.49
MW10-8D	588.33	Not Measured; Location Inadvertently Omitted			Not Measured; Location Inadvertently Omitted		
MW10-9D	587.03	4.74	582.29	19.72	5.31	581.72	19.92
MW10-10D	591.39	2.61	588.78	11.00	5.73	585.66	11.24
MW10-11	586.51	3.68	582.83	7.19	6.61	579.90	7.56
MW10-11D	586.58	5.50	581.08	17.40	6.25	580.33	17.53
MW10-12	587.76	4.91	582.85	18.95	5.40	582.36	19.03
MW10-12D	587.76	5.88	581.88	8.31	6.68	581.08	8.53
MW10-13	587.29	4.88	582.41	16.88	6.05	581.24	17.02
MW10-13D	587.38	4.74	582.64	6.79	6.03	581.35	7.04
PW10-1	587.47	4.41	583.06	13.90	7.07	580.40	13.98
PW10-2	586.51	2.98	583.53	24.21	5.48	581.03	25.13
PZ10-7	586.80	4.85	581.95	10.05	6.01	580.79	10.24

Table A-1
Groundwater Elevations
2022 Annual Comprehensive Sampling/Monitoring Report
Installation-Wide Groundwater Monitoring Program
Niagara Falls Air Reserve Station, New York

Location	Top of Inside Casing Elevation (ft amsl)	Spring Event (6/7 June 2022)			Fall Event (24/25 October 2022)		
		Water Depth (ft)	WL Elevation (ft amsl)	Well Depth (ft)	Water Depth (ft)	WL Elevation (ft amsl)	Well Depth (ft)
Site 13							
MW13-1	598.91	7.10	591.81	10.28	8.06	590.85	10.28
MW13-1D	598.03	5.57	592.46	10.28	7.56	590.47	16.21
MW13-1E	598.02	7.13	590.89	44.55	15.09	582.93	44.04
MW13-2D	601.11	8.97	592.14	23.94	12.09	589.02	23.83
MW13-3	598.67	6.71	591.96	10.98	8.38	590.29	11.05
MW13-3D	591.94	0.56	591.38	16.04	6.52	585.42	17.76
MW13-4	598.38	7.44	590.94	11.14	9.02	589.36	11.03
MW13-4D	599.96	7.24	592.72	19.01	9.40	590.56	18.93
MW13-5A	595.72	4.28	591.44	8.07	7.21	588.51	8.03
MW13-5D	597.49	6.03	591.46	21.10	7.91	589.58	20.89
MW13-6	594.06	3.03	591.03	7.04	4.33	589.73	6.96
MW13-6D	594.17	3.27	590.90	9.08	6.24	587.93	9.09
PW13-1	596.41	5.68	590.73	29.03	6.95	589.46	27.11
PW13-4D	598.50	9.11	589.39	23.00	9.37	589.13	23.08
PZ13-1	595.60	2.89	592.71	4.57	Piezometer Dry		4.49
PZ13-1D	595.61	3.07	592.54	17.12	5.13	590.48	17.12
PZ13-2	598.37	3.01	595.36	6.16	2.38	595.99	6.06
PZ13-2D	598.00	10.60	587.40	17.25	6.65	591.35	17.31
PZ13-3D	595.44	4.57	590.87	17.77	Inaccessible Due to Construction Trenching		
PZ13-4	596.26	3.70	592.56	9.51	4.81	591.45	9.80
PZ13-4D	596.61	4.39	592.22	22.51	5.74	590.87	22.16

Note:
amsl = above mean sea level

Table A-2
Surface Water Elevations and Water Quality Data
2022 Annual Comprehensive Sampling/Monitoring Report
Installation-Wide Groundwater Monitoring Program
Niagara Falls Air Reserve Station, New York

Location	Measuring Point Elevation (ft AMSL)	Spring Event (June 2022)[1]				
		Depth to Water	Surface Water Elevation	pH (s.u.)	Temperature (°C)	Conductivity (mS/cm)
SW3-2	594.55	3.1	591.45	6.81	15.56	0.809
SW3-3	587.78	1.91	585.87	6.24	14.98	0.810
SW3-15	N/A	N/A	N/A	7.61	15.06	0.833
SW8-8	596.84	4.25	592.59	N/A	N/A	N/A
SW8-9	591.17	NM	NM	N/A	N/A	N/A
SW10-5	589.49	4.42	585.07	NM	NM	NM
SW10-6	582.65	3.00	579.65	NM	NM	NM
SW10-7	589.56	2.90	586.66	7.49	21.72	0.946
SW10-8	N/A	N/A	N/A	7.43	21.87	0.946
SW99-10	585.58	11.56	574.02	7.24	26.29	1.921
SW99-14	585.93	5.11	580.82	N/A	N/A	N/A

Location	Measuring Point Elevation (ft AMSL)	Fall Event (October/November 2022)[2]				
		Depth to Water	Surface Water Elevation	pH (s.u.)	Temperature (°C)	Conductivity (mS/cm)
SW3-2	594.55	4.19	590.36	7.71	12.82	1.08
SW3-3	587.78	1.89	585.89	7.08	12.67	1.09
SW3-15	N/A	N/A	N/A	7.49	13.02	1.06
SW8-8	596.84	5.31	591.53	N/A	N/A	N/A
SW8-9	591.17	NM	NM	N/A	N/A	N/A
SW10-5	589.49	4.70	584.79	7.97	8.46	1.33
SW10-6	582.65	NM	NM	NM	NM	NM
SW10-7	589.56	6.83	582.73	8.01	9.77	1.06
SW10-8	N/A	N/A	N/A	7.93	9.70	1.07
SW99-10	585.58	5.63	579.95	7.81	10.87	1.86
SW99-14	585.93	11.82	574.11	N/A	N/A	N/A

Table A-2
Surface Water Elevations and Water Quality Data
2022 Annual Comprehensive Sampling/Monitoring Report
Installation-Wide Groundwater Monitoring Program
Niagara Falls Air Reserve Station, New York

Notes:

1. Surface water elevations for the Spring 2022 event were measured on 6 and 7 June 2022, while field parameter measurement and sample collection was completed on 29 and 30 June 2022.
2. Surface water elevations for the Fall 2022 event were measured on 24 and 25 October 2022, while field parameter measurement and sample collection was completed on 7 and 8 November 2022.
3. N/A – not applicable. Surface water elevations are not required at locations SW3-15 and SW10-8. Groundwater sample collection and field parameter measurements are not required at locations SW8-8, SW8-9, and SW99-14.
4. NM = not measured; surface water elevation or field parameter measurements were not collected as the specified location was dry at the time of elevation measurement or groundwater sample collection.
5. s.u. = standard units.
6. °C = degrees Celsius.
7. mS/cm = millisiemens per centimeter

Appendix B

Weather Data

Time	Temperature (°F)			Dew Point (°F)			Humidity (%)			Wind Speed (mph)			Pressure (in)			Precipitation (in)
Jan	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Total
1	43	38.6	34	40	35.6	30	93	89.3	79	13	7.7	0	29.1	29.1	29	0
2	33	27.3	20	30	22.6	11	93	82.5	60	18	12.2	3	29.5	29.2	29.1	0.16
3	22	16.8	12	16	8.9	5	84	71.5	60	12	4.6	0	29.7	29.6	29.6	0.01
4	35	29.2	23	26	20.7	17	81	70.9	59	22	9.3	0	29.6	29.5	29.2	0
5	41	36.3	28	33	24.6	16	77	62.9	51	35	20.6	12	29.2	29	28.9	0
6	29	25.6	21	21	16.1	11	78	67.2	60	25	14.1	3	29.3	29.2	29.1	0
7	25	21.7	19	16	11.8	7	81	66.2	55	22	15.1	6	29.7	29.4	29.2	0
8	38	22.7	13	24	12	8	84	65.4	40	26	6.8	0	29.9	29.8	29.4	0
9	42	33.5	0	38	26.6	0	89	73.6	0	29	20.6	13	29.5	29.4	29.2	0.04
10	21	17.2	13	9	5.6	0	71	60.5	52	26	20.5	15	29.7	29.6	29.5	0
11	25	11.1	5	11	3.3	-1	80	71.1	55	20	9.9	0	29.9	29.8	29.4	0
12	37	34.8	28	30	25.2	15	89	68.6	54	29	16.2	3	29.4	29.3	29.2	0
13	35	33.3	31	32	30.8	29	96	90.6	85	6	2.8	0	29.3	29.3	29.2	0
14	33	23.7	11	30	16	2	92	72.5	64	18	11.8	7	29.7	29.5	29.3	0
15	12	7.5	4	1	-0.5	-3	77	70.3	58	14	9.5	5	29.8	29.8	29.7	0
16	32	20.2	2	21	9.5	-3	85	66.8	27	14	7.5	3	29.7	29.3	29	0
17	30	27.3	24	27	22.8	17	92	83.1	66	30	17.2	5	29	28.7	28.5	0.56
18	30	24.4	19	21	15.9	12	75	70.2	60	20	10.7	0	29.4	29.3	29	0
19	40	35.3	25	32	25.4	13	76	67.5	60	31	19.9	10	29.4	29.2	29.1	0
20	25	13	7	12	5.4	0	87	72	56	20	9.1	0	29.9	29.8	29.5	0
21	15	9.5	-2	7	2.6	-7	84	73.8	56	12	5.3	0	30	29.9	29.9	0
22	28	15	-7	20	6	-12	83	68.5	50	26	14.3	3	29.8	29.5	29.3	0
23	26	20.9	14	19	13.7	1	89	74.3	56	20	9.8	5	29.3	29.2	29.1	0
24	24	14.6	-3	20	9.4	-9	88	79.8	62	15	6.6	0	29.3	29.1	29	0
25	25	19.6	10	19	12.1	2	80	72.8	62	16	11.3	0	29.6	29.4	29.1	0.01
26	18	14.6	10	11	6.6	2	84	71	56	10	5.1	0	29.7	29.7	29.6	0
27	28	23.6	14	23	14.7	5	81	68.9	55	28	18.8	13	29.7	29.5	29.4	0
28	28	16.2	9	20	8.2	1	81	70.8	63	17	10.3	3	29.6	29.6	29.4	0
29	14	8.3	2	3	-1.4	-10	73	64.9	51	12	7.4	3	29.6	29.5	29.4	0
30	22	13.3	4	13	5	-6	81	70	60	14	6.6	0	29.5	29.4	29.3	0
31	31	21.2	13	17	11.7	5	84	68.3	42	8	5.4	0	29.7	29.6	29.5	0

Time	Temperature (°F)			Dew Point (°F)			Humidity (%)			Wind Speed (mph)			Pressure (in)			Precipitation (in)
Feb	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Total
1	43	29.3	10	23	15.1	3	81	57	42	20	9.9	0	29.7	29.6	29.5	0
2	44	36.9	31	36	28.8	23	92	74.9	49	16	11.1	7	29.5	29.5	29.4	0
3	30	25.9	20	28	22.2	15	93	85.9	80	20	12.8	6	29.7	29.6	29.5	0.2
4	20	18.4	16	16	13.5	10	86	81.2	74	16	9.9	3	29.6	29.5	29.5	0.07
5	16	10.7	0	7	2.7	-4	87	70.5	49	12	6.4	0	29.9	29.7	29.5	0
6	34	24.5	10	18	11.6	2	71	59	40	21	13.2	6	29.8	29.6	29.6	0
7	37	31.7	25	27	20.9	15	82	64.9	54	17	9.5	5	29.6	29.4	29.4	0
8	31	27.7	20	25	20.6	13	82	75.2	59	21	11	5	29.4	29.4	29.3	0
9	44	34.6	16	32	24.3	11	81	66.6	51	26	12.6	3	29.3	29.1	29.1	0
10	38	34.5	32	31	28.4	25	85	78.6	64	22	15.9	12	29.2	29.1	29.1	0
11	45	36.6	30	35	28.6	22	86	73.7	51	33	18.1	9	29.2	29.1	28.9	0
12	37	25.5	15	33	18.4	9	89	75	58	28	15.6	6	29.6	29.4	29.1	0.06
13	17	13.4	10	9	6.8	0	84	75.6	47	9	4.6	0	29.6	29.6	29.5	0
14	15	12.1	8	9	5	0	88	73.9	54	16	6.4	0	29.8	29.6	29.5	0
15	25	19	9	12	7.9	1	71	62.4	51	14	7.9	0	29.9	29.9	29.8	0
16	51	40.9	18	33	23.6	6	63	50.8	41	24	15.8	6	29.7	29.5	29.3	0
17	52	38.6	32	44	34.7	29	97	86.7	50	23	12.9	7	29.3	29.1	28.8	0.09
18	32	21.4	18	29	14.7	6	92	76	59	28	17.7	8	29.4	29.3	28.8	0.72
19	30	23.2	17	28	16.5	4	92	75.8	56	44	28	10	29.7	29.2	29	0.01
20	45	31.3	16	24	14.8	5	74	52.6	36	29	18.2	6	29.7	29.4	29.2	0
21	50	39.6	30	33	28.6	25	82	65.9	43	16	8.1	0	29.5	29.5	29.4	0
22	52	46.2	34	49	42.9	28	93	88.3	78	22	12.7	0	29.4	29.1	29	0
23	51	32.1	18	48	23.7	9	89	71.3	56	28	18.9	7	29.9	29.5	29.1	0
24	26	21.1	17	14	10.7	8	71	64.2	55	22	13.5	7	29.9	29.8	29.6	0
25	25	22	19	22	16.8	12	88	80.4	71	23	14.4	0	29.8	29.5	29.2	0.01
26	29	22.7	9	20	14.4	4	85	70.9	55	26	16.3	6	29.8	29.7	29.5	0.02
27	35	30	24	25	20.7	11	80	68.8	50	29	19.8	12	29.5	29.4	29.3	0
28	26	21.3	13	13	6.5	2	65	53.6	39	16	6.6	0	29.7	29.6	29.4	0

Time	Temperature (°F)			Dew Point (°F)			Humidity (%)			Wind Speed (mph)			Pressure (in)			Precipitation (in)
Mar	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Total
1	45	37.6	24	32	25.9	11	79	63	53	20	13.1	5	29.4	29.3	29.1	0
2	37	32.7	25	30	24.9	17	92	73.9	56	20	9.5	3	29.4	29.3	29.2	0
3	32	22.7	14	23	9.7	3	72	58	46	24	13.9	6	29.8	29.6	29.3	0.02
4	32	23.1	14	18	12.9	6	77	65.5	54	21	10.5	0	29.8	29.8	29.8	0
5	48	35.7	24	31	21.3	16	78	57.6	38	13	7.4	0	29.8	29.6	29.2	0
6	64	51.8	37	51	40.4	30	86	66.2	42	44	20.9	10	29.4	29.2	29	0.12
7	38	35.5	33	35	31.1	26	93	84.3	73	20	10.8	0	29.4	29.1	28.9	0
8	37	31.4	28	25	20.5	17	75	64.4	48	21	11.7	3	29.6	29.5	29.3	0
9	41	33.6	27	27	23	19	79	65.8	49	16	6.7	0	29.4	29.3	29.3	0
10	41	32.9	25	27	23.8	21	85	70.8	45	13	6	0	29.5	29.5	29.4	0
11	41	32.2	26	32	27.9	22	96	84.9	53	18	8.1	0	29.4	29.2	29.1	0
12	28	22.2	18	21	13.2	7	81	68.6	46	36	22.2	13	29.3	29.1	29.1	0.14
13	21	20.7	20	13	12.3	11	71	70	68	21	18.3	17	29.4	29.3	29.3	0
14	50	37.1	24	36	28	19	88	70.6	52	17	6.8	0	29.6	29.6	29.5	0
15	43	37.3	33	36	33.6	30	97	87	76	15	6.6	0	29.6	29.5	29.5	0
16	53	39.2	33	42	35.4	31	96	87.2	63	10	4	0	29.6	29.5	29.4	0
17	67	42.9	30	41	33.6	28	92	74.4	36	14	4	0	29.3	29.3	29.2	0
18	64	51.3	42	44	38.4	35	76	62.3	48	18	8.8	0	29.3	29.3	29.1	0
19	64	48.4	43	54	43.6	38	93	84	63	32	12.9	0	29.1	29	28.9	0.03
20	51	41.9	37	38	33.9	27	89	75.4	41	22	13.9	8	29.5	29.2	29.1	0.15
21	57	44.2	32	31	27.4	24	75	53.5	33	18	7.9	0	29.6	29.5	29.5	0
22	46	38.4	31	27	20.4	12	79	50.5	31	12	7.1	0	29.7	29.6	29.6	0
23	43	40.2	36	38	29.8	17	93	68.3	40	20	13.1	3	29.6	29.3	29.1	0.02
24	57	49.3	43	45	40.5	36	93	72.9	53	25	13.3	5	29.2	29.1	29	0.35
25	45	40.6	37	37	34.6	33	86	79.5	68	18	14.1	8	29.1	28.9	28.9	0
26	43	36.8	33	37	32	28	89	82.9	67	25	16.1	7	29	28.9	28.8	0
27	32	25.6	19	28	18.6	7	89	75.1	55	32	20.2	14	29.3	29.1	29	0.03
28	23	19.8	16	12	7.7	3	74	59.9	50	22	16.9	7	29.6	29.4	29.3	0
29	35	26.4	18	19	14.7	10	74	62.4	42	14	9.9	0	29.6	29.6	29.6	0
30	48	35.4	24	37	24.5	17	81	65.2	54	14	7.1	0	29.6	29.3	28.9	0
31	67	54.3	42	54	42.7	34	84	65.4	53	29	18.3	5	28.9	28.8	28.6	0.02

Time	Temperature (°F)			Dew Point (°F)			Humidity (%)			Wind Speed (mph)			Pressure (in)			Precipitation (in)
Apr	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Total
1	42	36.6	32	35	29.1	22	87	74.7	55	24	16.4	7	29.4	29.1	28.9	0.16
2	43	35.6	28	28	23.8	16	79	63.3	34	15	7.2	0	29.5	29.4	29.2	0
3	42	38.4	35	32	28.5	25	79	67.9	60	15	9.8	6	29.4	29.3	29.1	0
4	46	40.3	31	33	29	26	85	65.6	48	12	5.5	0	29.4	29.4	29.3	0
5	64	50.2	38	41	35.6	31	76	58.7	40	12	7.3	3	29.3	29.2	29.1	0
6	66	55.5	45	52	44.2	36	89	66.9	48	20	10.1	5	29.1	29	28.9	0
7	56	49.8	44	52	44.6	36	93	83.1	52	17	10.2	7	29	29	28.9	0.03
8	50	43.7	37	37	33.6	30	82	68.6	46	23	13.2	7	29	29	29	0.01
9	48	41.6	37	38	33.6	26	83	73.8	62	24	12.8	8	29.2	29	28.9	0
10	48	39	35	31	28.7	26	82	67.6	46	17	12.3	0	29.4	29.3	29.2	0.01
11	66	49.2	30	52	39.7	27	90	73.1	32	23	11.2	0	29.4	29.3	29.2	0
12	63	53.6	43	48	37	26	93	58.6	28	13	5.1	0	29.5	29.4	29.2	0.08
13	74	62	47	61	50.5	34	90	66.5	52	21	9.1	3	29.4	29.2	29	0
14	65	55.1	46	56	42.1	24	90	63.5	35	26	16.1	5	29.3	29.1	28.9	0.01
15	58	48.9	41	39	33.6	27	74	57	32	41	17.5	7	29.3	29.3	29.2	0
16	47	40.1	35	40	33.6	23	93	78.5	53	21	8.4	0	29.4	29.3	29.2	0.13
17	44	35	30	28	25.7	19	89	70.6	37	20	9.5	0	29.7	29.5	29.4	0.02
18	49	36.1	28	34	29	20	92	78.3	32	20	9.3	0	29.7	29.4	29.2	0
19	40	37.7	35	33	30.7	29	82	76.1	67	30	19.6	12	29.4	29.2	29.1	0.26
20	50	42.8	35	33	26.8	15	78	55.5	27	17	10.6	3	29.7	29.7	29.5	0.01
21	57	51.3	44	50	43.3	28	89	75.4	41	26	17.3	6	29.6	29.5	29.4	0
22	54	47.6	40	39	33.4	29	76	58.9	38	12	6.1	0	29.9	29.8	29.6	0.07
23	65	52.1	45	43	37.5	35	68	58.3	45	16	9.5	3	29.7	29.6	29.4	0
24	80	62.8	46	56	47.7	37	76	59.5	42	13	4.4	0	29.4	29.4	29.3	0
25	76	61.2	53	59	54	44	93	78.4	53	32	8.6	0	29.4	29.3	29.2	0
26	55	47.4	38	52	40.4	34	93	77.6	59	18	11.2	6	29.5	29.4	29.4	0.29
27	39	35.4	33	34	28.9	22	93	78.3	53	17	11.9	6	29.6	29.5	29.4	0.06
28	50	39.7	29	28	21.6	10	85	53.5	21	17	9.8	5	29.7	29.6	29.6	0
29	56	44.8	31	29	22.6	16	76	45	23	10	5.3	0	29.7	29.6	29.5	0
30	61	48.4	34	32	25.3	18	76	44.6	23	10	4.9	0	29.6	29.5	29.4	0

Time	Temperature (°F)			Dew Point (°F)			Humidity (%)			Wind Speed (mph)			Pressure (in)			Precipitation (in)
May	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Total
1	60	52	43	51	36.2	19	89	58.6	30	12	8.1	0	29.4	29.3	29.2	0
2	58	52.9	49	52	46.2	43	93	78.7	60	23	12.2	6	29.5	29.3	29.2	0.22
3	63	54.1	44	54	46.6	39	89	76.7	53	14	6.5	0	29.4	29.3	29.2	0
4	59	51.9	49	49	47.1	40	94	84.2	62	17	10.2	3	29.5	29.3	29.2	0.19
5	64	53.2	39	41	37.8	35	86	58.1	37	13	6	0	29.6	29.5	29.4	0.06
6	59	54.2	50	41	36.5	30	63	51.7	41	21	12.9	5	29.4	29.3	29.2	0
7	60	51.8	46	29	26.7	24	50	38.5	27	24	17.2	6	29.4	29.3	29.2	0
8	65	52.7	37	34	29.9	27	73	44.2	27	18	9	0	29.5	29.5	29.4	0
9	74	58.6	36	38	32.3	28	73	40	20	16	7.4	0	29.6	29.6	29.5	0
10	80	63.9	47	41	33.8	23	63	36.3	13	15	7.1	3	29.7	29.6	29.6	0
11	82	67	51	42	37.8	33	61	37.1	19	10	4.6	0	29.7	29.6	29.6	0
12	85	69.3	50	49	42.6	37	68	40.4	21	12	5.8	0	29.7	29.6	29.5	0
13	83	72	61	60	55.5	45	73	57	41	15	6.4	0	29.6	29.5	29.4	0
14	83	71	63	66	60.6	57	90	71.4	42	12	6.1	0	29.4	29.3	29.2	0
15	80	70.1	61	64	59.5	54	90	70.3	48	15	9	0	29.2	29.2	29.1	0.26
16	64	58.1	53	56	52.2	49	90	81.2	64	15	7.5	0	29.1	29.1	29	0
17	64	55.8	48	51	41.8	38	86	60.6	43	23	13.8	5	29.4	29.2	29.1	0.1
18	61	53	43	48	41.9	35	90	68.1	39	8	4.3	0	29.4	29.3	29.2	0
19	68	57.2	52	56	51.9	47	96	83.1	61	20	7.9	0	29.1	29.1	29	0
20	79	69.9	56	65	60.2	52	87	71.8	56	25	11.7	0	29.1	29.1	29	0
21	83	72.7	65	66	64.1	60	94	75.6	52	23	9.6	0	29.4	29.3	29.1	0.03
22	69	60.4	49	65	56.9	45	96	88.4	67	23	9.4	0	29.6	29.4	29.3	0.93
23	63	54.7	47	45	40.1	35	86	60.3	37	9	5.3	0	29.7	29.6	29.6	0.01
24	69	58.2	46	49	44.5	40	86	62.5	42	15	7.5	3	29.7	29.6	29.6	0
25	74	64.9	51	57	52.1	44	80	64	53	15	7.5	0	29.7	29.6	29.4	0
26	80	71.8	64	64	58.8	52	87	64.1	54	23	13.4	6	29.4	29.3	29.2	0
27	73	67.1	62	64	61	57	94	81.5	63	14	9.4	6	29.2	29.1	29.1	0.04
28	70	61.5	57	57	55	49	93	80.3	49	13	7.3	0	29.3	29.2	29.1	0.04
29	77	67.1	56	58	54	51	90	65.4	45	13	5.9	0	29.4	29.4	29.3	0
30	84	73.8	61	63	59.2	56	84	62.1	40	22	9.3	0	29.4	29.4	29.3	0
31	87	77.1	67	67	61.5	58	76	59.6	42	21	10.5	3	29.4	29.3	29.3	0

Time	Temperature (°F)			Dew Point (°F)			Humidity (%)			Wind Speed (mph)			Pressure (in)			Precipitation (in)
Jun	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Total
1	78	70.9	61	68	64.2	58	93	79.8	64	22	7.4	0	29.3	29.2	29.1	0
2	72	62.3	54	58	49	41	93	63.6	38	12	7.9	5	29.2	29.2	29.1	0.14
3	74	62.8	49	53	48.6	44	90	62.5	37	16	8.5	0	29.2	29.2	29.2	0
4	68	59.7	49	50	41.6	36	74	52.9	32	17	12	5	29.4	29.3	29.2	0
5	76	64	50	51	44.2	38	89	53.5	27	12	5.8	0	29.4	29.3	29.3	0
6	81	67.7	60	64	56.4	49	97	69.8	42	18	8.1	0	29.3	29.2	29.2	0
7	69	64.7	56	66	61.7	52	97	90.1	76	21	12.1	0	29.2	29.1	29.1	0.47
8	71	62.6	52	58	52.3	48	90	70.8	47	13	4.4	0	29.3	29.3	29.2	0.23
9	70	59.7	55	58	54.9	51	96	85	51	15	10.9	5	29.2	29.1	29.1	0.28
10	71	62	51	55	50.8	46	93	68.3	45	15	9.8	3	29.3	29.2	29.2	0.14
11	76	66.8	58	56	54.3	52	90	65.6	45	17	8.1	0	29.3	29.2	29.2	0
12	74	67.6	63	64	60.3	56	90	77.8	65	20	10.8	3	29.3	29.2	29.2	0.07
13	76	64.7	52	57	52.3	48	97	66.9	40	8	3.9	0	29.4	29.3	29.3	0.05
14	81	71.8	62	59	54.7	51	75	55.8	42	13	6.1	0	29.4	29.3	29.3	0
15	90	76.3	59	75	63.6	52	84	65.5	51	14	5.7	0	29.4	29.3	29.3	0
16	88	80.5	73	75	70.5	59	88	71.9	57	23	13.9	5	29.3	29.2	29.1	0
17	82	73.5	62	63	54.7	49	76	53	34	26	17.3	7	29.2	29.1	29.1	0
18	66	60.7	55	46	41	38	67	49.3	37	23	17.5	12	29.5	29.4	29.2	0
19	72	61.3	51	43	36.8	30	64	42.4	23	16	8.5	0	29.6	29.5	29.5	0
20	75	65.3	57	58	48.6	40	78	56.3	34	17	7.8	0	29.6	29.5	29.4	0
21	85	74.9	65	64	60.2	56	75	61.1	46	21	12.3	5	29.4	29.4	29.3	0
22	87	77.2	65	73	67	57	89	71.5	51	28	10.3	0	29.3	29.2	29.2	0
23	82	69.9	58	63	57.8	52	87	66.5	44	13	7.5	0	29.3	29.3	29.2	0.21
24	82	71.2	59	61	52.9	45	90	55.2	27	13	5.8	0	29.4	29.4	29.3	0
25	90	76.7	63	64	58.9	56	90	57.5	31	8	4.5	0	29.5	29.4	29.4	0
26	85	77.8	72	68	64.9	61	81	64.7	49	18	11.2	3	29.4	29.3	29.2	0
27	72	67.8	57	68	52.4	47	87	59.3	42	20	12.5	5	29.5	29.4	29.2	0
28	73	63.3	51	53	49.9	45	83	63	48	14	7.8	0	29.6	29.6	29.5	0
29	75	66.9	59	58	54.6	49	81	65.5	50	13	5.8	0	29.6	29.5	29.5	0
30	86	72.5	57	64	59	54	90	65.3	40	18	7.2	0	29.6	29.5	29.4	0

Time	Temperature (°F)			Dew Point (°F)			Humidity (%)			Wind Speed (mph)			Pressure (in)			Precipitation (in)
Jul	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Total
1	83	76.2	69	68	63.2	58	90	64.6	52	18	13	8	29.3	29.3	29.2	0
2	83	72.6	64	68	58.2	47	93	64	29	20	7.7	0	29.4	29.3	29.2	0.05
3	80	69.3	57	54	49.1	45	72	50.7	30	14	7.1	0	29.5	29.5	29.4	0
4	86	73.3	58	59	55.4	53	87	55.8	36	9	4.5	0	29.5	29.5	29.4	0
5	79	73.7	69	71	64.4	58	90	73.1	55	17	9.6	0	29.4	29.2	29.1	0
6	75	69.8	63	63	60.3	57	90	72.5	55	13	7.4	0	29.4	29.3	29.2	0
7	82	71.5	58	63	57.3	52	90	63.9	36	12	5	0	29.4	29.4	29.3	0
8	82	73.3	61	64	59.7	56	87	64.1	45	9	4.8	0	29.4	29.4	29.4	0
9	76	68.7	59	57	49.1	37	70	52.1	24	16	9.3	0	29.5	29.5	29.4	0
10	83	70.3	55	56	50.9	46	77	53	29	10	3.7	0	29.5	29.4	29.3	0
11	86	74.3	59	68	57.1	47	87	58.7	27	24	11.3	0	29.3	29.2	29	0
12	84	76.7	70	68	63.6	58	87	65	44	22	14.1	3	29.2	29.1	29	0.09
13	80	71.1	66	63	58.8	52	87	66.7	42	14	4.6	0	29.4	29.3	29.2	0
14	81	67.3	59	63	55.9	46	96	72.1	30	10	4.1	0	29.5	29.4	29.4	0
15	83	71.9	59	61	53.2	35	83	56.4	18	14	4.3	0	29.5	29.5	29.5	0
16	86	76	64	60	54.6	48	80	50.4	28	12	4.8	0	29.5	29.4	29.4	0
17	87	75	62	70	60.5	54	90	63.3	34	14	5.5	0	29.4	29.3	29.3	0
18	80	72.1	68	71	68.1	65	93	87.4	64	20	10.7	0	29.3	29.1	29.1	0.85
19	87	78.7	67	72	68.4	61	93	71.5	59	17	12.1	7	29.2	29.2	29.1	0.08
20	91	79.7	71	71	68.5	65	90	70.2	47	43	14.6	6	29.2	29	28.9	0
21	85	78.2	74	71	69.3	66	91	75	56	24	13.8	8	29.1	29	28.9	0.4
22	85	77.8	69	69	67.1	64	93	70.8	53	20	9.5	0	29.3	29.2	29.1	0
23	87	79.1	72	70	67.1	64	91	68.2	49	25	13.9	7	29.3	29.3	29.3	0
24	86	78.4	72	71	69.1	64	87	73.7	59	25	14.8	8	29.3	29.2	29.1	0
25	80	72.8	61	69	57.9	51	79	60.4	42	20	12	6	29.4	29.3	29.1	0
26	79	69.2	57	58	54.8	51	83	61.7	44	10	4.5	0	29.4	29.4	29.3	0
27	81	73.2	62	66	60.8	57	86	66.6	47	12	5.9	0	29.3	29.3	29.2	0
28	84	73.3	66	72	68	62	93	83.8	58	21	11.5	7	29.2	29.2	29.1	0
29	80	71.7	61	62	59	55	93	66.6	45	17	9.8	0	29.3	29.3	29.2	0.98
30	78	70.3	61	64	59.5	56	84	69.5	50	14	8.8	0	29.5	29.5	29.4	0
31	82	73.5	63	66	61.4	59	90	67.7	45	12	4.4	0	29.5	29.5	29.4	0

Time	Temperature (°F)			Dew Point (°F)			Humidity (%)			Wind Speed (mph)			Pressure (in)			Precipitation (in)
Aug	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Total
1	84	76.2	69	70	65.5	63	87	70.8	49	21	11.9	3	29.4	29.2	29.1	0
2	79	72.3	64	70	62.7	58	90	72.5	50	13	9.2	3	29.3	29.2	29.1	0.11
3	90	74.9	59	67	62.3	55	90	67.2	46	17	7.7	0	29.4	29.3	29.2	0
4	83	77.8	73	73	71	67	90	79.9	67	17	10.5	6	29.4	29.4	29.3	0.01
5	87	75.8	69	72	69.4	65	93	81.7	55	12	4.2	0	29.5	29.5	29.4	0.15
6	89	80.3	70	72	69.8	67	90	71.8	53	14	7.9	0	29.5	29.5	29.4	0.16
7	89	81.2	75	74	72.6	71	91	75.8	57	18	11.9	8	29.5	29.4	29.4	0
8	87	79.3	77	75	73	70	94	81.3	63	23	15.3	8	29.4	29.3	29.2	0
9	77	70.6	67	75	62.7	58	94	76.5	59	16	9.4	0	29.4	29.3	29.2	0.36
10	79	71.3	60	62	59.1	56	90	66.9	50	12	4.2	0	29.5	29.4	29.4	0
11	79	71.4	64	62	56.8	50	81	61.7	39	15	10.6	6	29.5	29.4	29.3	0
12	78	68.8	59	57	50.4	43	87	55.3	30	13	5.2	0	29.5	29.5	29.5	0
13	79	67.3	54	53	49.9	46	83	56.8	32	9	2.7	0	29.6	29.5	29.4	0
14	82	69.8	57	55	52.7	49	81	57.5	34	16	5.9	0	29.4	29.4	29.3	0
15	84	73.6	65	63	55.3	44	81	55.8	26	17	9.1	3	29.4	29.4	29.3	0
16	79	70.8	64	66	61.6	58	84	73.2	52	8	2.9	0	29.5	29.4	29.4	0
17	82	71.2	62	64	60.5	57	87	70.5	52	12	4.5	0	29.5	29.4	29.4	0
18	84	69.8	59	64	59.1	51	96	72.6	32	17	5.8	0	29.4	29.3	29.3	0
19	85	75.1	65	67	61	57	90	64.2	38	16	6.9	0	29.4	29.4	29.3	0
20	90	76.6	63	63	59.2	52	87	58.4	27	13	4.8	0	29.5	29.4	29.4	0
21	81	73.3	68	68	66.2	62	93	79.2	58	13	5.5	0	29.4	29.3	29.3	0.01
22	77	71.5	69	68	66.5	65	93	84.5	66	8	4.8	0	29.3	29.3	29.2	0.03
23	84	72.5	68	68	65.7	58	93	80.6	41	16	6.3	0	29.3	29.2	29.2	0.64
24	84	72.9	61	66	62	58	90	70.5	42	17	8	0	29.4	29.4	29.3	0
25	83	70.8	64	70	65.5	63	97	84.3	60	9	2.8	0	29.4	29.4	29.3	0.51
26	80	72.8	65	67	63.8	57	93	74	58	13	6	0	29.4	29.3	29.3	0.16
27	77	67.5	59	57	54.9	49	83	65.2	46	10	4.8	0	29.5	29.5	29.4	0
28	86	73.1	58	67	61.4	55	90	69	46	12	5	0	29.5	29.4	29.3	0
29	88	79	69	71	68.4	64	87	70.7	51	24	13.5	0	29.4	29.3	29.2	0
30	76	73.3	70	72	67.2	60	94	81.5	66	17	11.1	7	29.2	29.2	29.1	0
31	80	71.6	61	64	57.8	54	87	63.7	40	23	14.5	7	29.2	29.2	29.1	0.29

Time	Temperature (°F)			Dew Point (°F)			Humidity (%)			Wind Speed (mph)			Pressure (in)			Precipitation (in)
Sep	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Total
1	73	65.4	53	56	51.1	46	83	60.9	44	15	7.3	0	29.4	29.4	29.2	0
2	85	71	58	62	56.6	54	90	63.6	38	13	5	0	29.6	29.5	29.4	0
3	86	75.3	64	70	64	56	90	68.8	49	14	7.6	0	29.5	29.5	29.4	0
4	73	67	64	70	64	60	94	89.7	81	15	10.2	0	29.5	29.5	29.5	0
5	67	64.8	64	65	62.5	60	94	92.1	87	17	11.1	6	29.5	29.4	29.4	0.13
6	69	65.5	63	62	60.5	60	90	83.9	75	12	7.5	3	29.5	29.4	29.4	0.16
7	74	66.8	60	66	63.1	58	94	88	68	10	6.2	0	29.4	29.4	29.4	0
8	78	62.9	55	65	58.4	55	100	87.2	46	8	1	0	29.4	29.4	29.3	0
9	82	69	56	64	59.5	54	93	74.2	47	9	3.7	0	29.4	29.4	29.3	0
10	81	72.6	62	63	61.4	58	87	69.2	50	13	6	0	29.5	29.5	29.4	0
11	72	69.8	67	65	62.8	59	90	78.6	70	12	6.6	3	29.5	29.4	29.3	0
12	78	71.3	67	71	66	57	94	83.8	58	16	7	0	29.2	29.2	29.1	0
13	68	60.8	56	59	55.9	52	97	84.9	56	12	3.4	0	29.2	29.2	29.1	0.15
14	77	65.6	55	62	55.4	48	89	70.9	48	21	10.9	5	29.5	29.4	29.3	0
15	67	59.2	52	50	46.5	43	83	64.2	47	10	5.4	0	29.7	29.6	29.5	0
16	76	63.8	47	65	56.5	44	90	77.9	66	15	6	0	29.6	29.5	29.5	0
17	80	64.7	56	65	57.9	54	93	80	54	14	5.6	0	29.6	29.5	29.4	0
18	80	73.4	69	67	65.7	64	84	76.7	64	18	12.1	7	29.4	29.3	29.3	0
19	77	71.2	57	68	64.7	54	90	79.9	66	18	11.7	6	29.3	29.2	29.1	0
20	76	66.6	57	65	59	54	90	77.8	50	13	9.2	5	29.4	29.3	29.3	0.1
21	79	71.3	60	68	63.2	57	93	76.4	58	21	11.2	0	29.3	29.1	29	0
22	68	60.4	53	61	46.8	37	78	61.3	53	24	16.2	0	29.4	29.2	29.1	0.04
23	60	51.8	46	43	37.3	34	83	58.8	41	16	9	0	29.6	29.5	29.4	0.01
24	65	55.5	44	50	45.5	41	93	70.7	50	9	3.8	0	29.5	29.4	29.2	0
25	66	59.6	56	59	55.3	49	97	85.7	72	13	7.5	5	29.2	28.9	28.9	0.03
26	64	58	54	54	49.8	48	87	74.7	56	21	14	8	29	28.9	28.9	0.62
27	63	57	54	53	51.8	50	93	83.3	67	20	12.2	5	29.3	29.2	29	0.01
28	57	55.6	54	54	50.5	45	94	83.6	69	14	8.7	6	29.8	29.5	29.3	0.42
29	60	53.1	44	46	41.2	35	82	65.5	41	10	5	0	29.9	29.8	29.8	0
30	64	51.4	39	48	42.6	36	89	73.6	48	9	4	0	29.8	29.7	29.6	0

Time	Temperature (°F)			Dew Point (°F)			Humidity (%)			Wind Speed (mph)			Pressure (in)			Precipitation (in)
Oct	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Total
1	67	56.8	48	52	46.8	43	89	70.5	47	21	8.5	0	29.5	29.5	29.5	0
2	59	53.4	45	48	41.6	36	72	64.9	45	22	14.8	3	29.7	29.6	29.5	0
3	61	49.2	39	42	37	33	86	64.9	38	14	6	0	29.7	29.7	29.6	0
4	64	50.4	39	46	39.5	36	89	69.5	41	9	2.6	0	29.6	29.5	29.5	0
5	73	56	40	53	44.5	37	89	69.4	27	10	3.7	0	29.5	29.4	29.4	0
6	69	62.1	56	56	53.4	51	93	74.3	54	13	8.1	3	29.4	29.3	29.3	0
7	61	52.4	47	55	42.9	35	93	70.6	59	18	13.1	7	29.6	29.4	29.3	0.02
8	53	46.3	35	37	34.2	32	89	64.3	45	20	12.3	6	29.6	29.5	29.4	0
9	61	54.3	47	46	39.7	33	75	58.5	44	18	13.5	6	29.4	29.4	29.4	0
10	59	53.3	45	49	43.9	39	92	71.8	48	9	4.4	0	29.6	29.5	29.4	0
11	71	56.4	40	52	45.3	37	93	69.2	42	20	8.8	0	29.6	29.6	29.5	0
12	71	64.1	57	54	49.2	45	68	58.9	45	18	12	6	29.5	29.3	29.1	0
13	66	57.1	49	58	51	39	96	80.9	59	25	12.2	3	29.1	29	28.9	0.52
14	59	50.6	43	43	37.8	30	89	64.2	33	17	8.8	3	29.3	29.2	29.1	0.08
15	58	51.2	41	43	36.1	33	82	57.6	42	30	15.2	0	29.3	29.2	29.1	0
16	61	52.3	43	47	40	35	86	64.2	42	21	8.7	0	29.3	29.2	29.1	0
17	52	45.3	39	49	41.3	36	93	85.9	74	21	10.4	0	29.1	28.9	28.9	0.01
18	48	42.8	39	40	37.8	34	93	83	61	22	13.1	7	29	28.9	28.8	0.33
19	48	42.9	40	41	38	35	93	83	68	23	11.8	6	29.1	29	29	0.41
20	43	40.5	37	38	34.8	28	93	80.6	62	24	13.7	6	29.3	29.2	29.1	0.02
21	66	51.2	33	37	34	31	92	55.9	33	22	11.8	0	29.3	29.3	29.2	0.24
22	73	61.2	51	44	39.8	36	59	46	35	18	11.6	5	29.5	29.4	29.3	0
23	74	57.8	44	47	42.5	39	82	59.1	37	12	4	0	29.6	29.6	29.5	0
24	73	56	40	53	46	35	86	70.5	48	9	2.6	0	29.6	29.5	29.4	0
25	76	58.8	47	56	49.2	44	93	73.7	37	12	3.4	0	29.4	29.3	29.2	0
26	63	57.2	50	56	51	43	94	80.4	62	21	13.5	5	29.3	29.1	29	0
27	49	45.2	36	42	34.3	30	82	66.5	52	21	9	0	29.8	29.6	29.4	0.17
28	53	41.3	31	36	31.8	28	89	71.1	47	13	4.6	0	29.9	29.8	29.8	0
29	64	45.1	32	42	35.1	27	89	71	38	6	1.6	0	29.8	29.7	29.6	0
30	65	46.5	28	42	32.5	23	89	63.9	22	10	1.9	0	29.6	29.5	29.4	0
31	59	54	42	57	50	35	100	86.6	68	7	3.9	0	29.4	29.3	29.2	0

Time	Temperature (°F)			Dew Point (°F)			Humidity (%)			Wind Speed (mph)			Pressure (in)			Precipitation (in)
Nov	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Total
1	65	56.2	48	57	53.9	47	100	92.3	56	10	6	0	29.6	29.4	29.3	0.1
2	63	51.5	45	52	49.2	44	100	92.3	58	10	4.2	0	29.7	29.7	29.6	0
3	64	49.5	45	51	46.5	44	100	90.5	63	9	2.8	0	29.7	29.6	29.6	0
4	74	60.3	46	51	47.1	42	90	63.7	45	17	8.5	0	29.5	29.5	29.4	0
5	79	70.4	61	58	54.2	50	67	56.8	44	23	14.9	7	29.4	29.3	29.1	0
6	66	59.6	53	59	51.5	47	90	75	58	22	11	6	29.4	29.4	29.2	0.17
7	58	51.7	41	47	35.8	30	77	56.4	36	21	14.3	8	29.9	29.7	29.4	0
8	50	41.5	34	37	32	28	89	70.4	46	14	7.5	3	30.1	30	29.9	0
9	64	47.2	31	31	27.1	22	79	50.5	24	14	5.8	0	30	29.8	29.6	0
10	69	58.7	50	44	36	27	66	43.7	31	20	12.1	6	29.6	29.5	29.4	0
11	61	57.7	53	59	54.8	46	100	90.7	58	14	6.6	0	29.3	29	28.9	0
12	56	47.8	38	55	42.6	34	97	82.8	66	20	13.8	8	29.2	29.1	28.9	0.72
13	40	36	32	35	32.3	23	96	86.8	65	16	10	3	29.6	29.4	29.2	0
14	39	35.6	33	27	24.9	21	78	65.5	51	14	6.5	0	29.8	29.7	29.6	0.06
15	40	36	34	31	27.6	24	89	72.1	55	13	8.3	0	29.8	29.6	29.4	0
16	39	35.5	34	35	32	27	96	87.3	75	17	7.4	0	29.4	29.3	29.2	0.02
17	37	33	31	31	27.7	23	96	81.5	59	20	12.7	5	29.3	29.3	29.2	0
18	35	31.6	29	26	22.8	20	79	70.1	59	21	13.6	8	29.4	29.3	29.3	0.05
19	32	27.1	24	27	21.6	16	96	80.3	59	46	15.5	0	29.4	29.3	29.2	0
20	25	21.9	18	15	11.4	9	72	64.2	55	29	21.6	5	29.6	29.5	29.2	0.11
21	44	34.6	22	28	20.9	13	70	57.9	43	36	18	5	29.6	29.5	29.3	0
22	44	37.5	26	32	28	23	88	69.2	53	17	8.3	0	29.6	29.6	29.5	0
23	45	34.8	28	33	29	25	96	80.4	53	10	4	0	29.6	29.6	29.5	0
24	51	36.8	27	35	29.4	23	92	76.6	48	14	3.7	0	29.6	29.6	29.3	0
25	49	44.8	40	45	36.9	30	93	74.4	56	24	15.9	9	29.4	29.3	29.2	0
26	51	43.8	32	40	33.7	28	86	69.2	44	26	15.8	6	29.4	29.3	29.2	0
27	46	43.6	40	44	39	30	97	84.9	56	18	9.4	0	29.2	28.8	28.7	0
28	41	37.7	35	37	31	25	93	77.2	64	16	10.5	0	29.5	29.2	28.9	0
29	46	40.8	36	35	31.3	26	79	69.3	58	14	6.9	0	29.5	29.4	29.2	0
30	51	42.6	31	47	34.9	19	90	75	54	32	21.2	8	29.3	29	28.8	0.24

Time	Temperature (°F)			Dew Point (°F)			Humidity (%)			Wind Speed (mph)			Pressure (in)			Precipitation (in)
Dec	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Total
1	35	30.3	26	28	20.7	19	87	67.9	59	30	16.1	0	29.8	29.7	29.3	0.42
2	52	39.3	26	31	22.8	19	78	54.4	32	20	11.4	0	29.8	29.6	29.3	0
3	54	45.3	34	48	35.5	20	86	69.2	55	38	23.5	15	29.6	29.3	29.1	0
4	38	33.4	26	26	21.9	17	78	63	52	24	16.2	7	29.6	29.5	29.4	0.06
5	45	40.1	35	26	23.8	20	65	52.8	37	23	14.3	3	29.4	29.4	29.3	0
6	45	43.3	41	41	36.6	26	93	78.5	48	15	6	0	29.5	29.4	29.4	0
7	46	44	42	43	41.8	39	97	92.4	82	14	4.9	0	29.6	29.5	29.4	0.04
8	44	39.8	32	39	33.2	27	89	77.4	60	12	7.9	5	29.7	29.7	29.6	0
9	36	33.9	32	32	28.3	23	89	80	69	18	9.3	0	29.8	29.7	29.7	0
10	38	33.3	31	27	25.6	25	82	73.6	60	18	14	10	29.7	29.6	29.5	0
11	36	33	31	34	30.1	25	96	89.3	72	15	7	0	29.5	29.4	29.4	0
12	32	30.2	29	28	25.3	21	89	82.2	69	13	7.3	3	29.8	29.7	29.5	0.02
13	34	27.9	21	24	20.1	17	88	73.3	56	9	3.5	0	29.8	29.7	29.6	0
14	31	26.9	21	24	20.8	18	88	78.2	64	17	10.1	0	29.7	29.6	29.5	0
15	38	34.3	27	36	30.6	20	93	86.5	72	17	10.9	7	29.4	29.2	29.1	0
16	41	36.5	33	36	33	30	97	87.8	70	12	6.7	0	29.1	29.1	29.1	0.44
17	35	32.1	30	31	26.9	23	93	81.5	64	14	8.7	3	29.1	29.1	29.1	0
18	33	30.9	29	25	23.6	20	85	74.5	66	22	16	6	29.4	29.3	29.1	0
19	33	30.9	29	24	22.8	21	78	72	64	23	16.8	12	29.8	29.6	29.4	0
20	34	31.2	29	25	22.8	20	85	71.7	59	13	7.8	0	29.8	29.8	29.7	0
21	38	31.4	27	28	23.9	18	89	74.9	46	14	7.5	0	29.8	29.7	29.7	0
22	42	37	29	37	30.8	23	93	79.4	51	18	9.3	5	29.7	29.3	28.8	0
23	40	22.6	11	39	19.2	6	97	86.8	80	46	28.7	0	28.8	28.6	28.3	0
24	18	15.3	11	15	10.8	5	96	82.5	73	41	29.9	0	28.9	28.9	28.7	0.23
25	22	19.2	18	13	10.7	8	74	69.8	63	29	23.9	18	29.3	29.1	28.9	0.06
26	22	20.4	17	18	14.8	8	89	79.6	62	21	11.2	6	29.5	29.5	29.3	0
27	32	24.5	18	24	16.9	11	85	73.1	58	17	11.2	7	29.6	29.5	29.5	0
28	43	37.5	32	27	26.4	25	75	64.8	51	29	15.1	6	29.4	29.4	29.4	0
29	49	44.6	36	42	34.2	24	83	67.6	53	22	11.7	0	29.5	29.4	29.4	0
30	55	51.9	47	49	45.2	42	90	78.2	69	20	10.2	0	29.4	29.4	29.3	0
31	52	47.1	40	50	45.4	38	97	94.2	88	13	6.1	0	29.3	29.2	29.1	0.01

Appendix C

Laboratory Analytical Data Reports and Data Validation Reports (provided on CD)

Laboratory Analytical Reports

301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | Fax: 717-944-1430 | www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

Analytical Results Report For **ARCADIS US Inc - Clifton Park, NY**

Project NFARS 30036646
Workorder 3250989
Report ID 181176 on 7/13/2022

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Jul 01, 2022.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Susan Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

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ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):
Andy Vitolins - Arcadis
Erika Denkenberger - Arcadis
Katherine Clubine - Arcadis
Corey Averill - Arcadis

Susan Scherer

Susan Scherer *(ALS Digital Signature)*
Project Coordinator

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Sample Summary

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collector	Collection Company
3250989001	MW3-3DA-062922	Ground Water	06/29/2022 12:27	07/01/2022 09:13	CBC	Collected By Client
3250989002	MW3-4DA-062922	Ground Water	06/29/2022 13:20	07/01/2022 09:13	CBC	Collected By Client
3250989003	PW3-3A-062922	Ground Water	06/29/2022 13:10	07/01/2022 09:13	CBC	Collected By Client
3250989004	P23-6D-062922	Ground Water	06/29/2022 12:37	07/01/2022 09:13	CBC	Collected By Client
3250989005	P23-7D-062922	Ground Water	06/29/2022 15:25	07/01/2022 09:13	CBC	Collected By Client
3250989006	P23-8D-062922	Ground Water	06/29/2022 15:30	07/01/2022 09:13	CBC	Collected By Client
3250989007	MW5-1DA-062922	Ground Water	06/29/2022 14:35	07/01/2022 09:13	CBC	Collected By Client
3250989008	DUP-062922-2	Ground Water	06/29/2022 00:00	07/01/2022 09:13	CBC	Collected By Client
3250989009	MW5-5D-062922	Ground Water	06/29/2022 13:59	07/01/2022 09:13	CBC	Collected By Client
3250989010	MW5-6-062922	Ground Water	06/29/2022 14:10	07/01/2022 09:13	CBC	Collected By Client
3250989011	DUP-062922-1	Ground Water	06/29/2022 14:10	07/01/2022 09:13	CBC	Collected By Client
3250989012	RW5-1-062922	Ground Water	06/29/2022 14:25	07/01/2022 09:13	CBC	Collected By Client
3250989013	RW5-2-062922	Ground Water	06/29/2022 14:12	07/01/2022 09:13	CBC	Collected By Client
3250989014	RW5-4-062922	Ground Water	06/29/2022 13:49	07/01/2022 09:13	CBC	Collected By Client
3250989015	MW8-11D-062922	Ground Water	06/29/2022 14:55	07/01/2022 09:13	CBC	Collected By Client
3250989016	EQUPBLANK-063022	Ground Water	06/30/2022 14:15	07/01/2022 09:13	CBC	Collected By Client
3250989017	MW10-3-063022	Ground Water	06/30/2022 13:04	07/01/2022 09:13	CBC	Collected By Client
3250989018	MW10-7-063022	Ground Water	06/30/2022 13:25	07/01/2022 09:13	CBC	Collected By Client
3250989019	PW10-1-063022	Ground Water	06/30/2022 13:35	07/01/2022 09:13	CBC	Collected By Client
3250989020	PW10-2-063022	Ground Water	06/30/2022 13:10	07/01/2022 09:13	CBC	Collected By Client
3250989021	PZ10-7-063022	Ground Water	06/30/2022 13:45	07/01/2022 09:13	CBC	Collected By Client
3250989022	SW3-15-062922	Ground Water	06/29/2022 12:58	07/01/2022 09:13	CBC	Collected By Client
3250989023	SW3-3-062922	Ground Water	06/29/2022 12:42	07/01/2022 09:13	CBC	Collected By Client
3250989024	SW3-2-062922	Ground Water	06/29/2022 13:31	07/01/2022 09:13	CBC	Collected By Client
3250989025	SW10-7-063022	Ground Water	06/30/2022 13:55	07/01/2022 09:13	CBC	Collected By Client
3250989026	SW10-8-063022	Ground Water	06/30/2022 13:16	07/01/2022 09:13	CBC	Collected By Client
3250989027	SW99-10-063022	Ground Water	06/30/2022 12:45	07/01/2022 09:13	CBC	Collected By Client
3250989028	TRIPBLANK	Ground Water	06/30/2022 00:00	07/01/2022 09:13	CBC	Collected By Client

Reference

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136.
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND) above the MDL
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits
#	Please reference the result in the Results Section for analyte-level flags.

Project Notations

Sample Notations

Lab ID	Sample ID

Result Notations

Notation Ref.	
1	The QC sample type MS for method SW846 8260C was outside the control limits for the analyte Bromomethane. The % Recovery was reported as 48.8 and the control limits were 53 to 141.
2	The QC sample type MSD for method SW846 8260C was outside the control limits for the analyte Bromomethane. The % Recovery was reported as 51.9 and the control limits were 53 to 141.
3	The QC sample type MSD for method SW846 8260C was outside the control limits for the analyte 2-Butanone. The RPD was reported as 20.4 and the upper control limit is 20.
4	The QC sample type MS for method SW846 8260C was outside the control limits for the analyte Iodomethane. The % Recovery was reported as 143 and the control limits were 69 to 131.
5	The QC sample type MSD for method SW846 8260C was outside the control limits for the analyte Iodomethane. The % Recovery was reported as 160 and the control limits were 69 to 131.
6	The QC sample type MSD for method SW846 8260C was outside the control limits for the analyte Bromomethane. The RPD was reported as 25.1 and the upper control limit is 20.
7	The QC sample type MSD for method SW846 8260C was outside the control limits for the analyte 2-Butanone. The RPD was reported as 26.7 and the upper control limit is 20.

Detected Results Summary

Client Sample ID	MW3-3DA-062922	Collected	06/29/2022 12:27
Lab Sample ID	3250989001	Lab Receipt	07/01/2022 09:13

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
cis-1,2-Dichloroethene	5.3	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	9.1	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	MW3-4DA-062922	Collected	06/29/2022 13:20
Lab Sample ID	3250989002	Lab Receipt	07/01/2022 09:13

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
cis-1,2-Dichloroethene	5.1	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	3.5	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	PW3-3A-062922	Collected	06/29/2022 13:10
Lab Sample ID	3250989003	Lab Receipt	07/01/2022 09:13

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Benzene	0.43J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Chlorobenzene	0.42J	ug/L	1.0	0.75	0.33	SW846 8260C	#
cis-1,2-Dichloroethene	40.9	ug/L	1.0	0.75	0.33	SW846 8260C	#
trans-1,2-Dichloroethene	0.72J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Trichloroethene	10.8	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	37.6	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	P23-7D-062922	Collected	06/29/2022 15:25
Lab Sample ID	3250989005	Lab Receipt	07/01/2022 09:13

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
cis-1,2-Dichloroethene	1.9	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	**MW5-1DA-062922**	Collected	**06/29/2022 14:35**
Lab Sample ID	**3250989007**	Lab Receipt	**07/01/2022 09:13**

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
cis-1,2-Dichloroethene	1.2	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	DUP-062922-2	Collected	06/29/2022 00:00
Lab Sample ID	3250989008	Lab Receipt	07/01/2022 09:13

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
cis-1,2-Dichloroethene	1.9	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	MW5-5D-062922	Collected	06/29/2022 13:59
Lab Sample ID	3250989009	Lab Receipt	07/01/2022 09:13

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Acetone	4.8J	ug/L	5.0	3.8	1.6	SW846 8260C	#
Carbon Disulfide	0.54J	ug/L	1.0	0.75	0.33	SW846 8260C	#
cis-1,2-Dichloroethene	31.2	ug/L	1.0	0.75	0.33	SW846 8260C	#
trans-1,2-Dichloroethene	2.0	ug/L	1.0	0.75	0.33	SW846 8260C	#
Trichloroethene	3.0	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	28.9	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	MW5-6-062922	Collected	06/29/2022 14:10
Lab Sample ID	3250989010	Lab Receipt	07/01/2022 09:13

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
cis-1,2-Dichloroethene	1.6	ug/L	1.0	0.75	0.33	SW846 8260C	#
Toluene	0.54J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Trichloroethene	0.60J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	0.42J	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	DUP-062922-1	Collected	06/29/2022 14:10
Lab Sample ID	3250989011	Lab Receipt	07/01/2022 09:13

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
cis-1,2-Dichloroethene	1.8	ug/L	1.0	0.75	0.33	SW846 8260C	#
Toluene	0.63J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Trichloroethene	0.56J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	0.45J	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	RW5-1-062922	Collected	06/29/2022 14:25
Lab Sample ID	3250989012	Lab Receipt	07/01/2022 09:13

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
1,1-Dichloroethene	1.4	ug/L	1.0	0.75	0.33	SW846 8260C	#
Carbon Disulfide	0.70J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Chloroethane	26.2	ug/L	1.0	0.75	0.33	SW846 8260C	#
cis-1,2-Dichloroethene	1390	ug/L	20.0	15.0	6.6	SW846 8260C	#
Toluene	2.8	ug/L	1.0	0.75	0.33	SW846 8260C	#
trans-1,2-Dichloroethene	7.6	ug/L	1.0	0.75	0.33	SW846 8260C	#
Trichloroethene	2.8	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	767	ug/L	20.0	15.0	6.6	SW846 8260C	#

Detected Results Summary

Client Sample ID	RW5-2-062922	Collected	06/29/2022 14:12
Lab Sample ID	3250989013	Lab Receipt	07/01/2022 09:13

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Carbon Disulfide	0.39J	ug/L	1.0	0.75	0.33	SW846 8260C	#
cis-1,2-Dichloroethene	358	ug/L	10.0	7.5	3.3	SW846 8260C	#
trans-1,2-Dichloroethene	0.71J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	223	ug/L	10.0	7.5	3.3	SW846 8260C	#

Detected Results Summary

Client Sample ID	RW5-4-062922	Collected	06/29/2022 13:49
Lab Sample ID	3250989014	Lab Receipt	07/01/2022 09:13

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Benzene	0.38J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Carbon Disulfide	0.68J	ug/L	1.0	0.75	0.33	SW846 8260C	#
cis-1,2-Dichloroethene	0.89J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Toluene	1.8	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	MW10-3-063022	Collected	06/30/2022 13:04
Lab Sample ID	3250989017	Lab Receipt	07/01/2022 09:13

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Acetone	22.2	ug/L	5.0	3.8	1.6	SW846 8260C	#
cis-1,2-Dichloroethene	0.60J	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	MW10-7-063022	Collected	06/30/2022 13:25
Lab Sample ID	3250989018	Lab Receipt	07/01/2022 09:13

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
1,1-Dichloroethene	0.65J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Acetone	22.8	ug/L	5.0	3.8	1.6	SW846 8260C	#
cis-1,2-Dichloroethene	32.9	ug/L	1.0	0.75	0.33	SW846 8260C	#
trans-1,2-Dichloroethene	2.1	ug/L	1.0	0.75	0.33	SW846 8260C	#
Trichloroethene	1.7	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	8.3	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	**PW10-1-063022**	Collected	**06/30/2022 13:35**
Lab Sample ID	**3250989019**	Lab Receipt	**07/01/2022 09:13**

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Acetone	15.8	ug/L	5.0	3.8	1.6	SW846 8260C	#
cis-1,2-Dichloroethene	2.1	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	2.4	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	**PW10-2-063022**	Collected	**06/30/2022 13:10**
Lab Sample ID	**3250989020**	Lab Receipt	**07/01/2022 09:13**

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Acetone	20.2	ug/L	5.0	3.8	1.6	SW846 8260C	#
Benzene	0.48J	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	PZ10-7-063022	Collected	06/30/2022 13:45
Lab Sample ID	3250989021	Lab Receipt	07/01/2022 09:13

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Acetone	24.0	ug/L	5.0	3.8	1.6	SW846 8260C	#

Detected Results Summary

Client Sample ID	SW3-15-062922	Collected	06/29/2022 12:58
Lab Sample ID	3250989022	Lab Receipt	07/01/2022 09:13

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Chloroform	0.40J	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	SW3-3-062922	Collected	06/29/2022 12:42
Lab Sample ID	3250989023	Lab Receipt	07/01/2022 09:13

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Chloroform	0.48J	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	SW3-2-062922	Collected	06/29/2022 13:31
Lab Sample ID	3250989024	Lab Receipt	07/01/2022 09:13

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Chloroform	0.50J	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID **TRIPBLANK** Collected **06/30/2022 00:00**
Lab Sample ID **3250989028** Lab Receipt **07/01/2022 09:13**

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Chloromethane	0.44J	ug/L	1.0	0.75	0.33	SW846 8260C	#

Results

Client Sample ID	MW3-3DA-062922	Collected	06/29/2022 12:27
Lab Sample ID	3250989001	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/12/2022 00:33	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/12/2022 00:33	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 00:33	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 00:33	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 00:33	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 00:33	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
cis-1,2-Dichloroethene	5.3		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/12/2022 00:33	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A

Results

Client Sample ID	**MW3-3DA-062922**	Collected	**06/29/2022 12:27**
Lab Sample ID	**3250989001**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A
Vinyl Chloride	9.1		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:33	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	93.2%	81 – 118	07/12/2022 00:33	
4-Bromofluorobenzene	460-00-4	103%	85 – 114	07/12/2022 00:33	
Dibromofluoromethane	1868-53-7	86.1%	80 – 119	07/12/2022 00:33	
Toluene-d8	2037-26-5	99.9%	89 – 112	07/12/2022 00:33	

Results

Client Sample ID	MW3-4DA-062922	Collected	06/29/2022 13:20
Lab Sample ID	3250989002	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/12/2022 00:56	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/12/2022 00:56	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 00:56	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 00:56	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 00:56	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 00:56	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
cis-1,2-Dichloroethene	5.1		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/12/2022 00:56	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A

Results

Client Sample ID	**MW3-4DA-062922**	Collected	**06/29/2022 13:20**
Lab Sample ID	**3250989002**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A
Vinyl Chloride	3.5		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 00:56	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	97.2%	81 – 118	07/12/2022 00:56	
4-Bromofluorobenzene	460-00-4	106%	85 – 114	07/12/2022 00:56	
Dibromofluoromethane	1868-53-7	87.6%	80 – 119	07/12/2022 00:56	
Toluene-d8	2037-26-5	96.8%	89 – 112	07/12/2022 00:56	

Results

Client Sample ID	PW3-3A-062922	Collected	06/29/2022 13:10
Lab Sample ID	3250989003	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/12/2022 01:18	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/12/2022 01:18	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
2-Butanone	3.8U	U,3	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 01:18	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 01:18	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 01:18	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 01:18	PDK	A
Benzene	0.43J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Bromomethane	0.75U	U,1,2	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Chlorobenzene	0.42J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
cis-1,2-Dichloroethene	40.9		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Iodomethane	0.75U	U,4,5	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/12/2022 01:18	PDK	A
trans-1,2-Dichloroethene	0.72J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A

Results

Client Sample ID	**PW3-3A-062922**	Collected	**06/29/2022 13:10**
Lab Sample ID	**3250989003**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	10.8		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A
Vinyl Chloride	37.6		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:18	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	96.8%	81 – 118	07/12/2022 01:18	
4-Bromofluorobenzene	460-00-4	104%	85 – 114	07/12/2022 01:18	
Dibromofluoromethane	1868-53-7	89.8%	80 – 119	07/12/2022 01:18	
Toluene-d8	2037-26-5	98.1%	89 – 112	07/12/2022 01:18	

Results

Client Sample ID	P23-6D-062922	Collected	06/29/2022 12:37
Lab Sample ID	3250989004	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/12/2022 01:40	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/12/2022 01:40	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 01:40	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 01:40	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 01:40	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 01:40	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/12/2022 01:40	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A

Results

Client Sample ID	P23-6D-062922	Collected	06/29/2022 12:37
Lab Sample ID	3250989004	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 01:40	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	98.5%	81 – 118	07/12/2022 01:40	
4-Bromofluorobenzene	460-00-4	108%	85 – 114	07/12/2022 01:40	
Dibromofluoromethane	1868-53-7	87.1%	80 – 119	07/12/2022 01:40	
Toluene-d8	2037-26-5	98.1%	89 – 112	07/12/2022 01:40	

Results

Client Sample ID	P23-7D-062922	Collected	06/29/2022 15:25
Lab Sample ID	3250989005	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/12/2022 02:02	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/12/2022 02:02	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 02:02	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 02:02	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 02:02	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 02:02	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
cis-1,2-Dichloroethene	1.9		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/12/2022 02:02	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A

Results

Client Sample ID	**P23-7D-062922**	Collected	**06/29/2022 15:25**
Lab Sample ID	**3250989005**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:02	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	97.7%	81 – 118	07/12/2022 02:02	
4-Bromofluorobenzene	460-00-4	104%	85 – 114	07/12/2022 02:02	
Dibromofluoromethane	1868-53-7	87.8%	80 – 119	07/12/2022 02:02	
Toluene-d8	2037-26-5	96.6%	89 – 112	07/12/2022 02:02	

Results

Client Sample ID	P23-8D-062922	Collected	06/29/2022 15:30
Lab Sample ID	3250989006	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/12/2022 02:24	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/12/2022 02:24	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 02:24	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 02:24	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 02:24	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 02:24	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/12/2022 02:24	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A

Results

Client Sample ID	P23-8D-062922	Collected	06/29/2022 15:30
Lab Sample ID	3250989006	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:24	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	97.5%	81 – 118	07/12/2022 02:24	
4-Bromofluorobenzene	460-00-4	104%	85 – 114	07/12/2022 02:24	
Dibromofluoromethane	1868-53-7	85.5%	80 – 119	07/12/2022 02:24	
Toluene-d8	2037-26-5	96.7%	89 – 112	07/12/2022 02:24	

Results

Client Sample ID	MW5-1DA-062922	Collected	06/29/2022 14:35
Lab Sample ID	3250989007	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/12/2022 22:55	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/12/2022 22:55	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
2-Butanone	3.8U	U,7	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 22:55	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 22:55	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 22:55	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 22:55	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Bromomethane	0.75U	U,6	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
cis-1,2-Dichloroethene	1.2		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/12/2022 22:55	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A

Results

Client Sample ID	**MW5-1DA-062922**	Collected	**06/29/2022 14:35**
Lab Sample ID	**3250989007**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:55	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	101%	81 – 118	07/12/2022 22:55	
4-Bromofluorobenzene	460-00-4	105%	85 – 114	07/12/2022 22:55	
Dibromofluoromethane	1868-53-7	89.4%	80 – 119	07/12/2022 22:55	
Toluene-d8	2037-26-5	96.6%	89 – 112	07/12/2022 22:55	

Results

Client Sample ID	DUP-062922-2	Collected	06/29/2022 00:00
Lab Sample ID	3250989008	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/12/2022 02:47	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/12/2022 02:47	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 02:47	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 02:47	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 02:47	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 02:47	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
cis-1,2-Dichloroethene	1.9		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/12/2022 02:47	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A

Results

Client Sample ID	**DUP-062922-2**	Collected	**06/29/2022 00:00**
Lab Sample ID	**3250989008**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 02:47	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	97.1%	81 – 118	07/12/2022 02:47	
4-Bromofluorobenzene	460-00-4	106%	85 – 114	07/12/2022 02:47	
Dibromofluoromethane	1868-53-7	88.3%	80 – 119	07/12/2022 02:47	
Toluene-d8	2037-26-5	96.9%	89 – 112	07/12/2022 02:47	

Results

Client Sample ID	MW5-5D-062922	Collected	06/29/2022 13:59
Lab Sample ID	3250989009	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/12/2022 23:17	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/12/2022 23:17	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 23:17	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 23:17	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 23:17	PDK	A
Acetone	4.8J	J	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 23:17	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Carbon Disulfide	0.54J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
cis-1,2-Dichloroethene	31.2		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/12/2022 23:17	PDK	A
trans-1,2-Dichloroethene	2.0		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A

Results

Client Sample ID	**MW5-5D-062922**	Collected	**06/29/2022 13:59**
Lab Sample ID	**3250989009**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	3.0		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A
Vinyl Chloride	28.9		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:17	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	102%	81 – 118	07/12/2022 23:17	
4-Bromofluorobenzene	460-00-4	105%	85 – 114	07/12/2022 23:17	
Dibromofluoromethane	1868-53-7	89.8%	80 – 119	07/12/2022 23:17	
Toluene-d8	2037-26-5	96.8%	89 – 112	07/12/2022 23:17	

Results

Client Sample ID	MW5-6-062922	Collected	06/29/2022 14:10
Lab Sample ID	3250989010	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/12/2022 03:09	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/12/2022 03:09	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 03:09	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 03:09	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 03:09	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 03:09	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
cis-1,2-Dichloroethene	1.6		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Toluene	0.54J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/12/2022 03:09	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A

Results

Client Sample ID	**MW5-6-062922**	Collected	**06/29/2022 14:10**
Lab Sample ID	**3250989010**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.60J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A
Vinyl Chloride	0.42J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:09	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	97.7%	81 – 118	07/12/2022 03:09	
4-Bromofluorobenzene	460-00-4	109%	85 – 114	07/12/2022 03:09	
Dibromofluoromethane	1868-53-7	89.7%	80 – 119	07/12/2022 03:09	
Toluene-d8	2037-26-5	99%	89 – 112	07/12/2022 03:09	

Results

Client Sample ID	DUP-062922-1	Collected	06/29/2022 14:10
Lab Sample ID	3250989011	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/12/2022 03:31	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/12/2022 03:31	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 03:31	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 03:31	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 03:31	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 03:31	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
cis-1,2-Dichloroethene	1.8		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Toluene	0.63J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/12/2022 03:31	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A

Results

Client Sample ID	**DUP-062922-1**	Collected	**06/29/2022 14:10**
Lab Sample ID	**3250989011**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.56J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A
Vinyl Chloride	0.45J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:31	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	98.2%	81 – 118	07/12/2022 03:31	
4-Bromofluorobenzene	460-00-4	110%	85 – 114	07/12/2022 03:31	
Dibromofluoromethane	1868-53-7	87.5%	80 – 119	07/12/2022 03:31	
Toluene-d8	2037-26-5	96.2%	89 – 112	07/12/2022 03:31	

Results

Client Sample ID	RW5-1-062922	Collected	06/29/2022 14:25
Lab Sample ID	3250989012	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
1,1-Dichloroethene	1.4		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/12/2022 03:54	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/12/2022 03:54	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 03:54	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 03:54	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 03:54	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 03:54	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Carbon Disulfide	0.70J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Chloroethane	26.2		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
cis-1,2-Dichloroethene	1390		ug/L	20.0	15.0	6.6	SW846 8260C	20	07/12/2022 17:34	DPC	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Toluene	2.8		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/12/2022 03:54	PDK	A
trans-1,2-Dichloroethene	7.6		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A

Results

Client Sample ID	RW5-1-062922	Collected	06/29/2022 14:25
Lab Sample ID	3250989012	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	2.8		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 03:54	PDK	A
Vinyl Chloride	767		ug/L	20.0	15.0	6.6	SW846 8260C	20	07/12/2022 17:34	DPC	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	103%	81 – 118	07/12/2022 17:34	
1,2-Dichloroethane-d4	17060-07-0	98.9%	81 – 118	07/12/2022 03:54	
4-Bromofluorobenzene	460-00-4	104%	85 – 114	07/12/2022 17:34	
4-Bromofluorobenzene	460-00-4	108%	85 – 114	07/12/2022 03:54	
Dibromofluoromethane	1868-53-7	88.7%	80 – 119	07/12/2022 17:34	
Dibromofluoromethane	1868-53-7	89.8%	80 – 119	07/12/2022 03:54	
Toluene-d8	2037-26-5	97.8%	89 – 112	07/12/2022 17:34	
Toluene-d8	2037-26-5	97.4%	89 – 112	07/12/2022 03:54	

Results

Client Sample ID	RW5-2-062922	Collected	06/29/2022 14:12
Lab Sample ID	3250989013	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/12/2022 04:16	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/12/2022 04:16	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 04:16	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 04:16	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 04:16	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 04:16	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Carbon Disulfide	0.39J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
cis-1,2-Dichloroethene	358		ug/L	10.0	7.5	3.3	SW846 8260C	10	07/12/2022 17:56	DPC	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/12/2022 04:16	PDK	A
trans-1,2-Dichloroethene	0.71J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A

Results

Client Sample ID	RW5-2-062922	Collected	06/29/2022 14:12
Lab Sample ID	3250989013	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 04:16	PDK	A
Vinyl Chloride	223		ug/L	10.0	7.5	3.3	SW846 8260C	10	07/12/2022 17:56	DPC	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	101%	81 – 118	07/12/2022 17:56	
1,2-Dichloroethane-d4	17060-07-0	95.5%	81 – 118	07/12/2022 04:16	
4-Bromofluorobenzene	460-00-4	103%	85 – 114	07/12/2022 17:56	
4-Bromofluorobenzene	460-00-4	104%	85 – 114	07/12/2022 04:16	
Dibromofluoromethane	1868-53-7	88.3%	80 – 119	07/12/2022 17:56	
Dibromofluoromethane	1868-53-7	87.3%	80 – 119	07/12/2022 04:16	
Toluene-d8	2037-26-5	95.4%	89 – 112	07/12/2022 17:56	
Toluene-d8	2037-26-5	100%	89 – 112	07/12/2022 04:16	

Results

Client Sample ID	RW5-4-062922	Collected	06/29/2022 13:49
Lab Sample ID	3250989014	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/12/2022 22:32	PDK	B
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/12/2022 22:32	PDK	B
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 22:32	PDK	B
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 22:32	PDK	B
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 22:32	PDK	B
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 22:32	PDK	B
Benzene	0.38J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Carbon Disulfide	0.68J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
cis-1,2-Dichloroethene	0.89J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Toluene	1.8		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/12/2022 22:32	PDK	B
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B

Results

Client Sample ID	**RW5-4-062922**	Collected	**06/29/2022 13:49**
Lab Sample ID	**3250989014**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:32	PDK	B

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	101%	81 – 118	07/12/2022 22:32	
4-Bromofluorobenzene	460-00-4	105%	85 – 114	07/12/2022 22:32	
Dibromofluoromethane	1868-53-7	88.8%	80 – 119	07/12/2022 22:32	
Toluene-d8	2037-26-5	97%	89 – 112	07/12/2022 22:32	

Results

Client Sample ID	MW8-11D-062922	Collected	06/29/2022 14:55
Lab Sample ID	3250989015	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/12/2022 05:00	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/12/2022 05:00	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 05:00	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 05:00	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 05:00	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 05:00	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/12/2022 05:00	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A

Results

Client Sample ID	**MW8-11D-062922**	Collected	**06/29/2022 14:55**
Lab Sample ID	**3250989015**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:00	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	98.9%	81 – 118	07/12/2022 05:00	
4-Bromofluorobenzene	460-00-4	105%	85 – 114	07/12/2022 05:00	
Dibromofluoromethane	1868-53-7	89.6%	80 – 119	07/12/2022 05:00	
Toluene-d8	2037-26-5	96.1%	89 – 112	07/12/2022 05:00	

Results

Client Sample ID	EQUPBLANK-063022	Collected	06/30/2022 14:15
Lab Sample ID	3250989016	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/11/2022 23:49	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/11/2022 23:49	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/11/2022 23:49	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/11/2022 23:49	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/11/2022 23:49	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/11/2022 23:49	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/11/2022 23:49	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A

Results

Client Sample ID	**EQUPBLANK-063022**	Collected	**06/30/2022 14:15**
Lab Sample ID	**3250989016**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/11/2022 23:49	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	98.3%	81 – 118	07/11/2022 23:49	
4-Bromofluorobenzene	460-00-4	104%	85 – 114	07/11/2022 23:49	
Dibromofluoromethane	1868-53-7	87.1%	80 – 119	07/11/2022 23:49	
Toluene-d8	2037-26-5	97.9%	89 – 112	07/11/2022 23:49	

Results

Client Sample ID	MW10-3-063022	Collected	06/30/2022 13:04
Lab Sample ID	3250989017	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/12/2022 05:23	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/12/2022 05:23	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 05:23	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 05:23	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 05:23	PDK	A
Acetone	22.2		ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 05:23	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
cis-1,2-Dichloroethene	0.60J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/12/2022 05:23	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A

Results

Client Sample ID	**MW10-3-063022**	Collected	**06/30/2022 13:04**
Lab Sample ID	**3250989017**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:23	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	97.7%	81 – 118	07/12/2022 05:23	
4-Bromofluorobenzene	460-00-4	102%	85 – 114	07/12/2022 05:23	
Dibromofluoromethane	1868-53-7	86.8%	80 – 119	07/12/2022 05:23	
Toluene-d8	2037-26-5	97.1%	89 – 112	07/12/2022 05:23	

Results

Client Sample ID	MW10-7-063022	Collected	06/30/2022 13:25
Lab Sample ID	3250989018	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
1,1-Dichloroethene	0.65J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/12/2022 05:45	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/12/2022 05:45	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 05:45	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 05:45	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 05:45	PDK	A
Acetone	22.8		ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 05:45	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
cis-1,2-Dichloroethene	32.9		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/12/2022 05:45	PDK	A
trans-1,2-Dichloroethene	2.1		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A

Results

Client Sample ID	**MW10-7-063022**	Collected	**06/30/2022 13:25**
Lab Sample ID	**3250989018**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	1.7		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A
Vinyl Chloride	8.3		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 05:45	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	99.8%	81 – 118	07/12/2022 05:45	
4-Bromofluorobenzene	460-00-4	105%	85 – 114	07/12/2022 05:45	
Dibromofluoromethane	1868-53-7	87.9%	80 – 119	07/12/2022 05:45	
Toluene-d8	2037-26-5	97.9%	89 – 112	07/12/2022 05:45	

Results

Client Sample ID	PW10-1-063022	Collected	06/30/2022 13:35
Lab Sample ID	3250989019	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/12/2022 23:39	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/12/2022 23:39	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 23:39	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 23:39	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 23:39	PDK	A
Acetone	15.8		ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 23:39	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
cis-1,2-Dichloroethene	2.1		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/12/2022 23:39	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A

Results

Client Sample ID	**PW10-1-063022**	Collected	**06/30/2022 13:35**
Lab Sample ID	**3250989019**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A
Vinyl Chloride	2.4		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 23:39	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	98.3%	81 – 118	07/12/2022 23:39	
4-Bromofluorobenzene	460-00-4	104%	85 – 114	07/12/2022 23:39	
Dibromofluoromethane	1868-53-7	85.5%	80 – 119	07/12/2022 23:39	
Toluene-d8	2037-26-5	96.2%	89 – 112	07/12/2022 23:39	

Results

Client Sample ID	PW10-2-063022	Collected	06/30/2022 13:10
Lab Sample ID	3250989020	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/13/2022 00:02	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/13/2022 00:02	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 00:02	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 00:02	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 00:02	PDK	A
Acetone	20.2		ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 00:02	PDK	A
Benzene	0.48J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/13/2022 00:02	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A

Results

Client Sample ID	**PW10-2-063022**	Collected	**06/30/2022 13:10**
Lab Sample ID	**3250989020**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:02	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	99.2%	81 – 118	07/13/2022 00:02	
4-Bromofluorobenzene	460-00-4	102%	85 – 114	07/13/2022 00:02	
Dibromofluoromethane	1868-53-7	85.4%	80 – 119	07/13/2022 00:02	
Toluene-d8	2037-26-5	95.6%	89 – 112	07/13/2022 00:02	

Results

Client Sample ID	PZ10-7-063022	Collected	06/30/2022 13:45
Lab Sample ID	3250989021	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/13/2022 00:24	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/13/2022 00:24	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 00:24	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 00:24	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 00:24	PDK	A
Acetone	24.0		ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 00:24	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/13/2022 00:24	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A

Results

Client Sample ID	PZ10-7-063022	Collected	06/30/2022 13:45
Lab Sample ID	3250989021	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:24	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	99.7%	81 – 118	07/13/2022 00:24	
4-Bromofluorobenzene	460-00-4	103%	85 – 114	07/13/2022 00:24	
Dibromofluoromethane	1868-53-7	87%	80 – 119	07/13/2022 00:24	
Toluene-d8	2037-26-5	97.1%	89 – 112	07/13/2022 00:24	

Results

Client Sample ID	SW3-15-062922	Collected	06/29/2022 12:58
Lab Sample ID	3250989022	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/13/2022 00:46	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/13/2022 00:46	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 00:46	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 00:46	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 00:46	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 00:46	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Chloroform	0.40J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/13/2022 00:46	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A

Results

Client Sample ID	SW3-15-062922	Collected	06/29/2022 12:58
Lab Sample ID	3250989022	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 00:46	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	97.6%	81 – 118	07/13/2022 00:46	
4-Bromofluorobenzene	460-00-4	103%	85 – 114	07/13/2022 00:46	
Dibromofluoromethane	1868-53-7	84.9%	80 – 119	07/13/2022 00:46	
Toluene-d8	2037-26-5	97.1%	89 – 112	07/13/2022 00:46	

Results

Client Sample ID	SW3-3-062922	Collected	06/29/2022 12:42
Lab Sample ID	3250989023	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/13/2022 01:08	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/13/2022 01:08	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 01:08	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 01:08	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 01:08	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 01:08	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Chloroform	0.48J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/13/2022 01:08	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A

Results

Client Sample ID	SW3-3-062922	Collected	06/29/2022 12:42
Lab Sample ID	3250989023	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:08	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	97.1%	81 – 118	07/13/2022 01:08	
4-Bromofluorobenzene	460-00-4	105%	85 – 114	07/13/2022 01:08	
Dibromofluoromethane	1868-53-7	86.4%	80 – 119	07/13/2022 01:08	
Toluene-d8	2037-26-5	99.2%	89 – 112	07/13/2022 01:08	

Results

Client Sample ID	SW3-2-062922	Collected	06/29/2022 13:31
Lab Sample ID	3250989024	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/13/2022 01:30	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/13/2022 01:30	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 01:30	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 01:30	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 01:30	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 01:30	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Chloroform	0.50J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/13/2022 01:30	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A

Results

Client Sample ID	SW3-2-062922	Collected	06/29/2022 13:31
Lab Sample ID	3250989024	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:30	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	100%	81 – 118	07/13/2022 01:30	
4-Bromofluorobenzene	460-00-4	104%	85 – 114	07/13/2022 01:30	
Dibromofluoromethane	1868-53-7	88.6%	80 – 119	07/13/2022 01:30	
Toluene-d8	2037-26-5	96.5%	89 – 112	07/13/2022 01:30	

Results

Client Sample ID	SW10-7-063022	Collected	06/30/2022 13:55
Lab Sample ID	3250989025	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/13/2022 01:53	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/13/2022 01:53	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 01:53	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 01:53	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 01:53	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 01:53	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/13/2022 01:53	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A

Results

Client Sample ID	**SW10-7-063022**	Collected	**06/30/2022 13:55**
Lab Sample ID	**3250989025**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 01:53	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	101%	81 – 118	07/13/2022 01:53	
4-Bromofluorobenzene	460-00-4	109%	85 – 114	07/13/2022 01:53	
Dibromofluoromethane	1868-53-7	88.4%	80 – 119	07/13/2022 01:53	
Toluene-d8	2037-26-5	97.6%	89 – 112	07/13/2022 01:53	

Results

Client Sample ID	SW10-8-063022	Collected	06/30/2022 13:16
Lab Sample ID	3250989026	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/13/2022 02:15	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/13/2022 02:15	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 02:15	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 02:15	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 02:15	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 02:15	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/13/2022 02:15	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A

Results

Client Sample ID	**SW10-8-063022**	Collected	**06/30/2022 13:16**
Lab Sample ID	**3250989026**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:15	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	98.6%	81 – 118	07/13/2022 02:15	
4-Bromofluorobenzene	460-00-4	104%	85 – 114	07/13/2022 02:15	
Dibromofluoromethane	1868-53-7	86.9%	80 – 119	07/13/2022 02:15	
Toluene-d8	2037-26-5	95.7%	89 – 112	07/13/2022 02:15	

Results

Client Sample ID	SW99-10-063022	Collected	06/30/2022 12:45
Lab Sample ID	3250989027	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/13/2022 02:37	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/13/2022 02:37	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 02:37	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 02:37	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 02:37	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 02:37	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/13/2022 02:37	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A

Results

Client Sample ID	SW99-10-063022	Collected	06/30/2022 12:45
Lab Sample ID	3250989027	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:37	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	102%	81 – 118	07/13/2022 02:37	
4-Bromofluorobenzene	460-00-4	106%	85 – 114	07/13/2022 02:37	
Dibromofluoromethane	1868-53-7	85.9%	80 – 119	07/13/2022 02:37	
Toluene-d8	2037-26-5	93.5%	89 – 112	07/13/2022 02:37	

Results

Client Sample ID	TRIPBLANK	Collected	06/30/2022 00:00
Lab Sample ID	3250989028	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/12/2022 22:10	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/12/2022 22:10	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 22:10	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 22:10	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 22:10	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/12/2022 22:10	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Chloromethane	0.44J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/12/2022 22:10	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A

Results

Client Sample ID	**TRIPBLANK**	Collected	**06/30/2022 00:00**
Lab Sample ID	**3250989028**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/12/2022 22:10	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	98.9%	81 – 118	07/12/2022 22:10	
4-Bromofluorobenzene	460-00-4	106%	85 – 114	07/12/2022 22:10	
Dibromofluoromethane	1868-53-7	87.6%	80 – 119	07/12/2022 22:10	
Toluene-d8	2037-26-5	96%	89 – 112	07/12/2022 22:10	

Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3250989001	MW3-3DA-062922	SW846 8260C	N/A	
3250989002	MW3-4DA-062922	SW846 8260C	N/A	
3250989003	PW3-3A-062922	SW846 8260C	N/A	
3250989004	P23-6D-062922	SW846 8260C	N/A	
3250989005	P23-7D-062922	SW846 8260C	N/A	
3250989006	P23-8D-062922	SW846 8260C	N/A	
3250989007	MW5-1DA-062922	SW846 8260C	N/A	
3250989008	DUP-062922-2	SW846 8260C	N/A	
3250989009	MW5-5D-062922	SW846 8260C	N/A	
3250989010	MW5-6-062922	SW846 8260C	N/A	
3250989011	DUP-062922-1	SW846 8260C	N/A	
3250989012	RW5-1-062922	SW846 8260C	N/A	
		SW846 8260C	N/A	
3250989013	RW5-2-062922	SW846 8260C	N/A	
		SW846 8260C	N/A	
3250989014	RW5-4-062922	SW846 8260C	N/A	
3250989015	MW8-11D-062922	SW846 8260C	N/A	
3250989016	EQUPBLANK-063022	SW846 8260C	N/A	
3250989017	MW10-3-063022	SW846 8260C	N/A	
3250989018	MW10-7-063022	SW846 8260C	N/A	
3250989019	PW10-1-063022	SW846 8260C	N/A	
3250989020	PW10-2-063022	SW846 8260C	N/A	
3250989021	PZ10-7-063022	SW846 8260C	N/A	
3250989022	SW3-15-062922	SW846 8260C	N/A	
3250989023	SW3-3-062922	SW846 8260C	N/A	
3250989024	SW3-2-062922	SW846 8260C	N/A	
3250989025	SW10-7-063022	SW846 8260C	N/A	
3250989026	SW10-8-063022	SW846 8260C	N/A	
3250989027	SW99-10-063022	SW846 8260C	N/A	
3250989028	TRIPBLANK	SW846 8260C	N/A	

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS

QC Batch

QC Batch	863496	Prep Method	N/A
Date	N/A	Analysis Method	SW846 8260C
Tech.			

Associated Samples

3250989001	3250989002	3250989003	3250989004
3250989005	3250989006	3250989008	3250989010
3250989011	3250989012	3250989013	3250989015
3250989016	3250989017	3250989018	

Method Blank 3527869 (MB) Created on 07/11/2022 19:09 For QC Batch 863496

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
1,1,1-Trichloroethane	71-55-6	BLK	0.75U	ug/L	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	BLK	0.75U	ug/L	1.0	U
1,1,2-Trichloroethane	79-00-5	BLK	0.75U	ug/L	1.0	U
1,1-Dichloroethane	75-34-3	BLK	0.75U	ug/L	1.0	U
1,1-Dichloroethene	75-35-4	BLK	0.75U	ug/L	1.0	U
1,2,3-Trichlorobenzene	87-61-6	BLK	0.75U	ug/L	1.0	U
1,2,4-Trichlorobenzene	120-82-1	BLK	0.75U	ug/L	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	BLK	2.5U	ug/L	5.0	U
1,2-Dibromoethane	106-93-4	BLK	0.75U	ug/L	1.0	U
1,2-Dichlorobenzene	95-50-1	BLK	0.75U	ug/L	1.0	U
1,2-Dichloroethane	107-06-2	BLK	0.75U	ug/L	1.0	U
1,2-Dichloropropane	78-87-5	BLK	0.75U	ug/L	1.0	U
1,3-Dichlorobenzene	541-73-1	BLK	0.75U	ug/L	1.0	U
1,3-Dichloropropene, Total	542-75-6	BLK	1.5U	ug/L	2.0	U
1,4-Dichlorobenzene	106-46-7	BLK	0.75U	ug/L	1.0	U
2-Butanone	78-93-3	BLK	3.8U	ug/L	5.0	U
2-Hexanone	591-78-6	BLK	3.8U	ug/L	5.0	U
4-Methyl-2-Pentanone(MIBK)	108-10-1	BLK	3.8U	ug/L	5.0	U
Acetone	67-64-1	BLK	3.8U	ug/L	5.0	U
Benzene	71-43-2	BLK	0.75U	ug/L	1.0	U
Bromochloromethane	74-97-5	BLK	0.75U	ug/L	1.0	U
Bromodichloromethane	75-27-4	BLK	0.75U	ug/L	1.0	U
Bromoform	75-25-2	BLK	0.75U	ug/L	1.0	U
Bromomethane	74-83-9	BLK	0.75U	ug/L	1.0	U
Carbon Disulfide	75-15-0	BLK	0.75U	ug/L	1.0	U
Carbon Tetrachloride	56-23-5	BLK	0.75U	ug/L	1.0	U
Chlorobenzene	108-90-7	BLK	0.75U	ug/L	1.0	U
Chlorodibromomethane	124-48-1	BLK	0.75U	ug/L	1.0	U
Chloroethane	75-00-3	BLK	0.75U	ug/L	1.0	U
Chloroform	67-66-3	BLK	0.75U	ug/L	1.0	U
Chloromethane	74-87-3	BLK	0.75U	ug/L	1.0	U
cis-1,2-Dichloroethene	156-59-2	BLK	0.75U	ug/L	1.0	U
Cyclohexane	110-82-7	BLK	0.75U	ug/L	1.0	U
Dichlorodifluoromethane	75-71-8	BLK	0.75U	ug/L	1.0	U
Ethylbenzene	100-41-4	BLK	0.75U	ug/L	1.0	U
Freon 113	76-13-1	BLK	0.75U	ug/L	1.0	U
Iodomethane	74-88-4	BLK	0.75U	ug/L	1.0	U
Isopropylbenzene	98-82-8	BLK	0.75U	ug/L	1.0	U

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
Methyl acetate	79-20-9	BLK	0.75U	ug/L	1.0	U
Methyl cyclohexane	108-87-2	BLK	0.75U	ug/L	1.0	U
Methyl t-Butyl Ether	1634-04-4	BLK	0.75U	ug/L	1.0	U
Methylene Chloride	75-09-2	BLK	0.75U	ug/L	1.0	U
Styrene	100-42-5	BLK	0.75U	ug/L	1.0	U
Tetrachloroethene	127-18-4	BLK	0.75U	ug/L	1.0	U
Toluene	108-88-3	BLK	0.75U	ug/L	1.0	U
Total Xylenes	1330-20-7	BLK	2.3U	ug/L	3.0	U
trans-1,2-Dichloroethene	156-60-5	BLK	0.75U	ug/L	1.0	U
Trichloroethene	79-01-6	BLK	0.75U	ug/L	1.0	U
Trichlorofluoromethane	75-69-4	BLK	0.75U	ug/L	1.0	U
Vinyl Chloride	75-01-4	BLK	0.75U	ug/L	1.0	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	BLK	28.80	30	95.9	81 - 118	
4-Bromofluorobenzene	460-00-4	BLK	31.20	30	104	85 - 114	
Dibromofluoromethane	1868-53-7	BLK	25.90	30	86.3	80 - 119	
Toluene-d8	2037-26-5	BLK	29.10	30	97.1	89 - 112	

Lab Control Standard 3527870 (LCS) Created on 07/11/2022 19:09 For QC Batch 863496

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1-Trichloroethane	71-55-6	LCS	19		20	95	74 - 131		
1,1,2,2-Tetrachloroethane	79-34-5	LCS	18.70		20	93.6	71 - 121		
1,1,2-Trichloroethane	79-00-5	LCS	18.20		20	91.2	80 - 119		
1,1-Dichloroethane	75-34-3	LCS	18.80		20	94.1	77 - 125		
1,1-Dichloroethene	75-35-4	LCS	20.50		20	102	71 - 131		
1,2,3-Trichlorobenzene	87-61-6	LCS	15.70		20	78.3	69 - 129		
1,2,4-Trichlorobenzene	120-82-1	LCS	16.30		20	81.6	69 - 130		
1,2-Dibromo-3-chloropropane	96-12-8	LCS	14		20	70.2	62 - 128		
1,2-Dibromoethane	106-93-4	LCS	18.30		20	91.7	77 - 121		
1,2-Dichlorobenzene	95-50-1	LCS	18.40		20	92.2	80 - 119		
1,2-Dichloroethane	107-06-2	LCS	19.30		20	96.4	73 - 128		
1,2-Dichloropropane	78-87-5	LCS	18.90		20	94.7	78 - 122		
1,3-Dichlorobenzene	541-73-1	LCS	18.70		20	93.4	80 - 119		
1,3-Dichloropropene, Total	542-75-6	LCS	38.80		40	97.1	75 - 124		
1,4-Dichlorobenzene	106-46-7	LCS	18.20		20	91.2	79 - 118		
2-Butanone	78-93-3	LCS	56.60		100	56.6	56 - 143		
2-Hexanone	591-78-6	LCS	71.20		100	71.2	57 - 139		
4-Methyl-2-Pentanone(MIBK)	108-10-1	LCS	85		100	85	67 - 130		
Acetone	67-64-1	LCS	81.20		100	81.2	39 - 160		
Benzene	71-43-2	LCS	19.60		20	97.8	79 - 120		

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Bromochloromethane	74-97-5	LCS	19.20		20	96.1	78 - 123		
Bromodichloromethane	75-27-4	LCS	19.10		20	95.3	79 - 125		
Bromoform	75-25-2	LCS	18.70		20	93.3	66 - 130		
Bromomethane	74-83-9	LCS	21.80		20	109	53 - 141		
Carbon Disulfide	75-15-0	LCS	22.90		20	114	64 - 133		
Carbon Tetrachloride	56-23-5	LCS	18.90		20	94.6	72 - 136		
Chlorobenzene	108-90-7	LCS	18		20	90	82 - 118		
Chlorodibromomethane	124-48-1	LCS	18		20	89.8	74 - 126		
Chloroethane	75-00-3	LCS	18.60		20	93.1	60 - 138		
Chloroform	67-66-3	LCS	18.70		20	93.4	79 - 124		
Chloromethane	74-87-3	LCS	21.40		20	107	50 - 139		
cis-1,2-Dichloroethene	156-59-2	LCS	20.10		20	100	78 - 123		
Cyclohexane	110-82-7	LCS	20.40		20	102	71 - 130		
Dichlorodifluoromethane	75-71-8	LCS	20		20	99.8	32 - 152		
Ethylbenzene	100-41-4	LCS	18.30		20	91.4	79 - 121		
Freon 113	76-13-1	LCS	20.20		20	101	70 - 136		
Iodomethane	74-88-4	LCS	18.90		20	94.6	69 - 131		
Isopropylbenzene	98-82-8	LCS	19.60		20	98.2	72 - 131		
Methyl acetate	79-20-9	LCS	14.20		20	70.9	56 - 136		
Methyl cyclohexane	108-87-2	LCS	19.10		20	95.3	72 - 132		
Methyl t-Butyl Ether	1634-04-4	LCS	18.60		20	93.2	71 - 124		
Methylene Chloride	75-09-2	LCS	20.10		20	101	74 - 124		
Styrene	100-42-5	LCS	21.10		20	105	78 - 123		
Tetrachloroethene	127-18-4	LCS	16.80		20	84.1	74 - 129		
Toluene	108-88-3	LCS	19		20	95.2	80 - 121		
Total Xylenes	1330-20-7	LCS	56.30		60	93.8	79 - 121		
trans-1,2-Dichloroethene	156-60-5	LCS	19.60		20	97.9	75 - 124		
Trichloroethene	79-01-6	LCS	18.40		20	91.9	79 - 123		
Trichlorofluoromethane	75-69-4	LCS	18.50		20	92.7	65 - 141		
Vinyl Chloride	75-01-4	LCS	18.80		20	93.9	58 - 137		

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	LCS	29.10	30	97	81 - 118	
4-Bromofluorobenzene	460-00-4	LCS	30.80	30	103	85 - 114	
Dibromofluoromethane	1868-53-7	LCS	26.70	30	89	80 - 119	
Toluene-d8	2037-26-5	LCS	28.40	30	94.8	89 - 112	

Matrix Spike 3527920 (MS) 3250989003 For QC Batch 863496

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Matrix Spike Duplicate 3527921 (MSD) 3250989003 For QC Batch 863496

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1-Trichloroethane	71-55-6	MS	20.60	0	20	103	74 - 131		
1,1,1-Trichloroethane	71-55-6	MSD	19.90	0	20	99.4	74 - 131	RPD 3.65 (Max-20)	
1,1,2,2-Tetrachloroethane	79-34-5	MS	21.20	0	20	106	71 - 121		
1,1,2,2-Tetrachloroethane	79-34-5	MSD	20.60	0	20	103	71 - 121	RPD 2.45 (Max-20)	
1,1,2-Trichloroethane	79-00-5	MS	20	0	20	100	80 - 119		
1,1,2-Trichloroethane	79-00-5	MSD	19.50	0	20	97.7	80 - 119	RPD 2.44 (Max-20)	
1,1-Dichloroethane	75-34-3	MS	20.60	0	20	103	77 - 125		
1,1-Dichloroethane	75-34-3	MSD	19.50	0	20	97.3	77 - 125	RPD 5.65 (Max-20)	
1,1-Dichloroethene	75-35-4	MS	22.60	0	20	113	71 - 131		
1,1-Dichloroethene	75-35-4	MSD	21.40	0	20	107	71 - 131	RPD 5.44 (Max-20)	
1,2,3-Trichlorobenzene	87-61-6	MS	17.10	0	20	85.3	69 - 129		
1,2,3-Trichlorobenzene	87-61-6	MSD	17.90	0	20	89.5	69 - 129	RPD 4.72 (Max-20)	
1,2,4-Trichlorobenzene	120-82-1	MS	17.20	0	20	86	69 - 130		
1,2,4-Trichlorobenzene	120-82-1	MSD	17.70	0	20	88.7	69 - 130	RPD 3.10 (Max-20)	
1,2-Dibromo-3-chloropropane	96-12-8	MS	17.50	0	20	87.6	62 - 128		
1,2-Dibromo-3-chloropropane	96-12-8	MSD	15.80	0	20	79.2	62 - 128	RPD 10 (Max-20)	
1,2-Dibromoethane	106-93-4	MS	19.70	0	20	98.5	77 - 121		
1,2-Dibromoethane	106-93-4	MSD	19.20	0	20	95.9	77 - 121	RPD 2.69 (Max-20)	
1,2-Dichlorobenzene	95-50-1	MS	19.40	0	20	96.9	80 - 119		
1,2-Dichlorobenzene	95-50-1	MSD	18.90	0	20	94.5	80 - 119	RPD 2.50 (Max-20)	
1,2-Dichloroethane	107-06-2	MS	20.80	0	20	104	73 - 128		
1,2-Dichloroethane	107-06-2	MSD	20.20	0	20	101	73 - 128	RPD 2.89 (Max-20)	
1,2-Dichloropropane	78-87-5	MS	20.80	0	20	104	78 - 122		
1,2-Dichloropropane	78-87-5	MSD	20	0	20	100	78 - 122	RPD 3.75 (Max-20)	
1,3-Dichlorobenzene	541-73-1	MS	19.50	0	20	97.3	80 - 119		
1,3-Dichlorobenzene	541-73-1	MSD	18.80	0	20	94.2	80 - 119	RPD 3.29 (Max-20)	
1,3-Dichloropropene, Total	542-75-6	MS	39.60	0	40	99	75 - 124		
1,3-Dichloropropene, Total	542-75-6	MSD	38	0	40	95	75 - 124	RPD 4.04 (Max-20)	
1,4-Dichlorobenzene	106-46-7	MS	19	0	20	95.1	79 - 118		
1,4-Dichlorobenzene	106-46-7	MSD	18.40	0	20	91.8	79 - 118	RPD 3.57 (Max-20)	
2-Butanone	78-93-3	MS	75.90	0	100	75.9	56 - 143		
2-Butanone	78-93-3	MSD	61.80	0	100	61.8	56 - 143	RPD 20.40* (Max-20)	
2-Hexanone	591-78-6	MS	91.90	0	100	91.9	57 - 139		
2-Hexanone	591-78-6	MSD	85.40	0	100	85.4	57 - 139	RPD 7.31 (Max-20)	
4-Methyl-2-Pentanone(MIBK)	108-10-1	MS	106	0	100	106	67 - 130		
4-Methyl-2-Pentanone(MIBK)	108-10-1	MSD	104	0	100	104	67 - 130	RPD 1.31 (Max-20)	
Acetone	67-64-1	MS	112	0	100	112	39 - 160		
Acetone	67-64-1	MSD	95.20	0	100	95.2	39 - 160	RPD 16.40 (Max-20)	
Benzene	71-43-2	MS	21.60	0.43	20	106	79 - 120		
Benzene	71-43-2	MSD	20.80	0.43	20	102	79 - 120	RPD 3.46 (Max-20)	
Bromochloromethane	74-97-5	MS	20.40	0	20	102	78 - 123		
Bromochloromethane	74-97-5	MSD	19.60	0	20	98.2	78 - 123	RPD 3.68 (Max-20)	
Bromodichloromethane	75-27-4	MS	20.60	0	20	103	79 - 125		
Bromodichloromethane	75-27-4	MSD	19.70	0	20	98.3	79 - 125	RPD 4.64 (Max-20)	
Bromoform	75-25-2	MS	19.70	0	20	98.7	66 - 130		
Bromoform	75-25-2	MSD	18.90	0	20	94.5	66 - 130	RPD 4.30 (Max-20)	
Bromomethane	74-83-9	MS	9.80	0	20	48.8*	53 - 141		
Bromomethane	74-83-9	MSD	10.40	0	20	51.9*	53 - 141	RPD 6.16 (Max-20)	

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Carbon Disulfide	75-15-0	MS	24.70	0.29	20	122	64 - 133		
Carbon Disulfide	75-15-0	MSD	21.90	0.29	20	108	64 - 133	RPD 12 (Max-20)	
Carbon Tetrachloride	56-23-5	MS	21	0	20	105	72 - 136		
Carbon Tetrachloride	56-23-5	MSD	20.10	0	20	100	72 - 136	RPD 4.46 (Max-20)	
Chlorobenzene	108-90-7	MS	19.30	0.42	20	94.5	82 - 118		
Chlorobenzene	108-90-7	MSD	18.80	0.42	20	91.7	82 - 118	RPD 2.90 (Max-20)	
Chlorodibromomethane	124-48-1	MS	19	0	20	95.1	74 - 126		
Chlorodibromomethane	124-48-1	MSD	18.10	0	20	90.6	74 - 126	RPD 4.84 (Max-20)	
Chloroethane	75-00-3	MS	21.50	0	20	107	60 - 138		
Chloroethane	75-00-3	MSD	20.70	0	20	103	60 - 138	RPD 3.83 (Max-20)	
Chloroform	67-66-3	MS	19.90	0	20	99.7	79 - 124		
Chloroform	67-66-3	MSD	19.30	0	20	96.6	79 - 124	RPD 3.08 (Max-20)	
Chloromethane	74-87-3	MS	23.70	0	20	118	50 - 139		
Chloromethane	74-87-3	MSD	22.20	0	20	111	50 - 139	RPD 6.48 (Max-20)	
cis-1,2-Dichloroethene	156-59-2	MS	61.20	40.90	20	101	78 - 123		
cis-1,2-Dichloroethene	156-59-2	MSD	57.50	40.90	20	82.9	78 - 123	RPD 6.22 (Max-20)	
Cyclohexane	110-82-7	MS	22.10	0	20	110	71 - 130		
Cyclohexane	110-82-7	MSD	21.60	0	20	108	71 - 130	RPD 2.15 (Max-20)	
Dichlorodifluoromethane	75-71-8	MS	23.70	0	20	118	32 - 152		
Dichlorodifluoromethane	75-71-8	MSD	22.20	0	20	111	32 - 152	RPD 6.51 (Max-20)	
Ethylbenzene	100-41-4	MS	19.70	0	20	98.4	79 - 121		
Ethylbenzene	100-41-4	MSD	19	0	20	95.2	79 - 121	RPD 3.26 (Max-20)	
Freon 113	76-13-1	MS	21.20	0	20	106	70 - 136		
Freon 113	76-13-1	MSD	20.80	0	20	104	70 - 136	RPD 2.14 (Max-20)	
Iodomethane	74-88-4	MS	28.60	0	20	143*	69 - 131		
Iodomethane	74-88-4	MSD	32.10	0	20	160*	69 - 131	RPD 11.50 (Max-20)	
Isopropylbenzene	98-82-8	MS	21.40	0	20	107	72 - 131		
Isopropylbenzene	98-82-8	MSD	20.60	0	20	103	72 - 131	RPD 3.89 (Max-20)	
Methyl acetate	79-20-9	MS	16.10	0	20	80.6	56 - 136		
Methyl acetate	79-20-9	MSD	14.50	0	20	72.3	56 - 136	RPD 10.80 (Max-20)	
Methyl cyclohexane	108-87-2	MS	20.40	0	20	102	72 - 132		
Methyl cyclohexane	108-87-2	MSD	20.30	0	20	101	72 - 132	RPD 0.84 (Max-20)	
Methyl t-Butyl Ether	1634-04-4	MS	20	0	20	100	71 - 124		
Methyl t-Butyl Ether	1634-04-4	MSD	19.70	0	20	98.6	71 - 124	RPD 1.45 (Max-20)	
Methylene Chloride	75-09-2	MS	21.20	0	20	106	74 - 124		
Methylene Chloride	75-09-2	MSD	20.50	0	20	103	74 - 124	RPD 3.28 (Max-20)	
Styrene	100-42-5	MS	22.30	0	20	112	78 - 123		
Styrene	100-42-5	MSD	20.70	0	20	104	78 - 123	RPD 7.32 (Max-20)	
Tetrachloroethene	127-18-4	MS	17.90	0	20	89.4	74 - 129		
Tetrachloroethene	127-18-4	MSD	17.30	0	20	86.6	74 - 129	RPD 3.23 (Max-20)	
Toluene	108-88-3	MS	20.40	0	20	102	80 - 121		
Toluene	108-88-3	MSD	19.50	0	20	97.6	80 - 121	RPD 4.33 (Max-20)	
Total Xylenes	1330-20-7	MS	60.40	0	60	101	79 - 121		
Total Xylenes	1330-20-7	MSD	58.10	0	60	96.9	79 - 121	RPD 3.84 (Max-20)	
trans-1,2-Dichloroethene	156-60-5	MS	21.70	0.72	20	105	75 - 124		
trans-1,2-Dichloroethene	156-60-5	MSD	20.20	0.72	20	97.4	75 - 124	RPD 7.02 (Max-20)	
Trichloroethene	79-01-6	MS	31.50	10.80	20	103	79 - 123		
Trichloroethene	79-01-6	MSD	31.10	10.80	20	101	79 - 123	RPD 1.31 (Max-20)	
Trichlorofluoromethane	75-69-4	MS	20.90	0	20	105	65 - 141		

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Trichlorofluoromethane	75-69-4	MSD	19.90	0	20	99.4	65 - 141	RPD 5.14 (Max-20)	
Vinyl Chloride	75-01-4	MS	58.10	37.60	20	103	58 - 137		
Vinyl Chloride	75-01-4	MSD	54.40	37.60	20	84.2	58 - 137	RPD 6.60 (Max-20)	

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	MS	30.60	30	102	81 - 118	
1,2-Dichloroethane-d4	17060-07-0	MSD	30.60	30	102	81 - 118	
4-Bromofluorobenzene	460-00-4	MS	30.70	30	102	85 - 114	
4-Bromofluorobenzene	460-00-4	MSD	30.30	30	101	85 - 114	
Dibromofluoromethane	1868-53-7	MS	27	30	90	80 - 119	
Dibromofluoromethane	1868-53-7	MSD	26.90	30	89.7	80 - 119	
Toluene-d8	2037-26-5	MS	28.20	30	93.9	89 - 112	
Toluene-d8	2037-26-5	MSD	28	30	93.5	89 - 112	

QC Batch

QC Batch	863685	Prep Method	N/A
Date	N/A	Analysis Method	SW846 8260C
Tech.			

Associated Samples

3250989012 3250989013

Method Blank 3527955 (MB) Created on 07/12/2022 07:28 For QC Batch 863685

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
1,1,1-Trichloroethane	71-55-6	BLK	0.75U	ug/L	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	BLK	0.75U	ug/L	1.0	U
1,1,2-Trichloroethane	79-00-5	BLK	0.75U	ug/L	1.0	U
1,1-Dichloroethane	75-34-3	BLK	0.75U	ug/L	1.0	U
1,1-Dichloroethene	75-35-4	BLK	0.75U	ug/L	1.0	U
1,2,3-Trichlorobenzene	87-61-6	BLK	0.75U	ug/L	1.0	U
1,2,4-Trichlorobenzene	120-82-1	BLK	0.75U	ug/L	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	BLK	2.5U	ug/L	5.0	U
1,2-Dibromoethane	106-93-4	BLK	0.75U	ug/L	1.0	U
1,2-Dichlorobenzene	95-50-1	BLK	0.75U	ug/L	1.0	U
1,2-Dichloroethane	107-06-2	BLK	0.75U	ug/L	1.0	U
1,2-Dichloropropane	78-87-5	BLK	0.75U	ug/L	1.0	U
1,3-Dichlorobenzene	541-73-1	BLK	0.75U	ug/L	1.0	U
1,3-Dichloropropene, Total	542-75-6	BLK	1.5U	ug/L	2.0	U
1,4-Dichlorobenzene	106-46-7	BLK	0.75U	ug/L	1.0	U
2-Butanone	78-93-3	BLK	3.8U	ug/L	5.0	U
2-Hexanone	591-78-6	BLK	3.8U	ug/L	5.0	U
4-Methyl-2-Pentanone(MIBK)	108-10-1	BLK	3.8U	ug/L	5.0	U

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
Acetone	67-64-1	BLK	3.8U	ug/L	5.0	U
Benzene	71-43-2	BLK	0.75U	ug/L	1.0	U
Bromochloromethane	74-97-5	BLK	0.75U	ug/L	1.0	U
Bromodichloromethane	75-27-4	BLK	0.75U	ug/L	1.0	U
Bromoform	75-25-2	BLK	0.75U	ug/L	1.0	U
Bromomethane	74-83-9	BLK	0.75U	ug/L	1.0	U
Carbon Disulfide	75-15-0	BLK	0.75U	ug/L	1.0	U
Carbon Tetrachloride	56-23-5	BLK	0.75U	ug/L	1.0	U
Chlorobenzene	108-90-7	BLK	0.75U	ug/L	1.0	U
Chlorodibromomethane	124-48-1	BLK	0.75U	ug/L	1.0	U
Chloroethane	75-00-3	BLK	0.75U	ug/L	1.0	U
Chloroform	67-66-3	BLK	0.75U	ug/L	1.0	U
Chloromethane	74-87-3	BLK	0.75U	ug/L	1.0	U
cis-1,2-Dichloroethene	156-59-2	BLK	0.75U	ug/L	1.0	U
Cyclohexane	110-82-7	BLK	0.75U	ug/L	1.0	U
Dichlorodifluoromethane	75-71-8	BLK	0.75U	ug/L	1.0	U
Ethylbenzene	100-41-4	BLK	0.75U	ug/L	1.0	U
Freon 113	76-13-1	BLK	0.75U	ug/L	1.0	U
Iodomethane	74-88-4	BLK	0.75U	ug/L	1.0	U
Isopropylbenzene	98-82-8	BLK	0.75U	ug/L	1.0	U
Methyl acetate	79-20-9	BLK	0.75U	ug/L	1.0	U
Methyl cyclohexane	108-87-2	BLK	0.75U	ug/L	1.0	U
Methyl t-Butyl Ether	1634-04-4	BLK	0.75U	ug/L	1.0	U
Methylene Chloride	75-09-2	BLK	0.75U	ug/L	1.0	U
Styrene	100-42-5	BLK	0.75U	ug/L	1.0	U
Tetrachloroethene	127-18-4	BLK	0.75U	ug/L	1.0	U
Toluene	108-88-3	BLK	0.75U	ug/L	1.0	U
Total Xylenes	1330-20-7	BLK	2.3U	ug/L	3.0	U
trans-1,2-Dichloroethene	156-60-5	BLK	0.75U	ug/L	1.0	U
Trichloroethene	79-01-6	BLK	0.75U	ug/L	1.0	U
Trichlorofluoromethane	75-69-4	BLK	0.75U	ug/L	1.0	U
Vinyl Chloride	75-01-4	BLK	0.75U	ug/L	1.0	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	BLK	29.80	30	99.2	81 - 118	
4-Bromofluorobenzene	460-00-4	BLK	31.10	30	104	85 - 114	
Dibromofluoromethane	1868-53-7	BLK	25.90	30	86.3	80 - 119	
Toluene-d8	2037-26-5	BLK	28.80	30	95.9	89 - 112	

Lab Control Standard 3527956 (LCS) Created on 07/12/2022 07:28 For QC Batch 863685

RESULTS

Compound	CAS No	Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1-Trichloroethane	71-55-6	LCS	19.70		20	98.6	74 - 131		
1,1,2,2-Tetrachloroethane	79-34-5	LCS	21.90		20	110	71 - 121		
1,1,2-Trichloroethane	79-00-5	LCS	20.10		20	100	80 - 119		
1,1-Dichloroethane	75-34-3	LCS	20		20	99.9	77 - 125		
1,1-Dichloroethene	75-35-4	LCS	21.70		20	109	71 - 131		
1,2,3-Trichlorobenzene	87-61-6	LCS	20.80		20	104	69 - 129		
1,2,4-Trichlorobenzene	120-82-1	LCS	19.80		20	98.9	69 - 130		
1,2-Dibromo-3-chloropropane	96-12-8	LCS	18.50		20	92.3	62 - 128		
1,2-Dibromoethane	106-93-4	LCS	20.30		20	101	77 - 121		
1,2-Dichlorobenzene	95-50-1	LCS	19.90		20	99.6	80 - 119		
1,2-Dichloroethane	107-06-2	LCS	20.30		20	102	73 - 128		
1,2-Dichloropropane	78-87-5	LCS	20.50		20	102	78 - 122		
1,3-Dichlorobenzene	541-73-1	LCS	19.70		20	98.3	80 - 119		
1,3-Dichloropropene, Total	542-75-6	LCS	40.80		40	102	75 - 124		
1,4-Dichlorobenzene	106-46-7	LCS	19.10		20	95.4	79 - 118		
2-Butanone	78-93-3	LCS	96.10		100	96.1	56 - 143		
2-Hexanone	591-78-6	LCS	102		100	102	57 - 139		
4-Methyl-2-Pentanone(MIBK)	108-10-1	LCS	114		100	114	67 - 130		
Acetone	67-64-1	LCS	123		100	123	39 - 160		
Benzene	71-43-2	LCS	20.90		20	104	79 - 120		
Bromochloromethane	74-97-5	LCS	20.30		20	101	78 - 123		
Bromodichloromethane	75-27-4	LCS	20		20	99.8	79 - 125		
Bromoform	75-25-2	LCS	20.90		20	105	66 - 130		
Bromomethane	74-83-9	LCS	20		20	100	53 - 141		
Carbon Disulfide	75-15-0	LCS	23.90		20	119	64 - 133		
Carbon Tetrachloride	56-23-5	LCS	19.90		20	99.6	72 - 136		
Chlorobenzene	108-90-7	LCS	18.30		20	91.6	82 - 118		
Chlorodibromomethane	124-48-1	LCS	18.90		20	94.3	74 - 126		
Chloroethane	75-00-3	LCS	19.20		20	95.9	60 - 138		
Chloroform	67-66-3	LCS	19.60		20	98	79 - 124		
Chloromethane	74-87-3	LCS	21.10		20	106	50 - 139		
cis-1,2-Dichloroethene	156-59-2	LCS	21.30		20	106	78 - 123		
Cyclohexane	110-82-7	LCS	21.10		20	106	71 - 130		
Dichlorodifluoromethane	75-71-8	LCS	20.50		20	103	32 - 152		
Ethylbenzene	100-41-4	LCS	19		20	94.8	79 - 121		
Freon 113	76-13-1	LCS	20.60		20	103	70 - 136		
Iodomethane	74-88-4	LCS	21		20	105	69 - 131		
Isopropylbenzene	98-82-8	LCS	20.70		20	103	72 - 131		
Methyl acetate	79-20-9	LCS	20.40		20	102	56 - 136		
Methyl cyclohexane	108-87-2	LCS	19.10		20	95.5	72 - 132		
Methyl t-Butyl Ether	1634-04-4	LCS	21		20	105	71 - 124		
Methylene Chloride	75-09-2	LCS	20.80		20	104	74 - 124		
Styrene	100-42-5	LCS	21.80		20	109	78 - 123		
Tetrachloroethene	127-18-4	LCS	17.20		20	85.9	74 - 129		
Toluene	108-88-3	LCS	19.70		20	98.4	80 - 121		
Total Xylenes	1330-20-7	LCS	57.90		60	96.6	79 - 121		
trans-1,2-Dichloroethene	156-60-5	LCS	20.10		20	100	75 - 124		

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Trichloroethene	79-01-6	LCS	19.90		20	99.6	79 - 123		
Trichlorofluoromethane	75-69-4	LCS	18.80		20	93.9	65 - 141		
Vinyl Chloride	75-01-4	LCS	19.60		20	97.9	58 - 137		

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	LCS	31.10	30	104	81 - 118	
4-Bromofluorobenzene	460-00-4	LCS	31.10	30	104	85 - 114	
Dibromofluoromethane	1868-53-7	LCS	27	30	90.2	80 - 119	
Toluene-d8	2037-26-5	LCS	28.50	30	94.9	89 - 112	

QC Batch

QC Batch	863874	Prep Method	N/A
Date	N/A	Analysis Method	SW846 8260C
Tech.			

Associated Samples

3250989007	3250989009	3250989014	3250989019
3250989020	3250989021	3250989022	3250989023
3250989024	3250989025	3250989026	3250989027
3250989028			

Method Blank 3528440 (MB) Created on 07/12/2022 18:43 For QC Batch 863874

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
1,1,1-Trichloroethane	71-55-6	BLK	0.75U	ug/L	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	BLK	0.75U	ug/L	1.0	U
1,1,2-Trichloroethane	79-00-5	BLK	0.75U	ug/L	1.0	U
1,1-Dichloroethane	75-34-3	BLK	0.75U	ug/L	1.0	U
1,1-Dichloroethene	75-35-4	BLK	0.75U	ug/L	1.0	U
1,2,3-Trichlorobenzene	87-61-6	BLK	0.75U	ug/L	1.0	U
1,2,4-Trichlorobenzene	120-82-1	BLK	0.75U	ug/L	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	BLK	2.5U	ug/L	5.0	U
1,2-Dibromoethane	106-93-4	BLK	0.75U	ug/L	1.0	U
1,2-Dichlorobenzene	95-50-1	BLK	0.75U	ug/L	1.0	U
1,2-Dichloroethane	107-06-2	BLK	0.75U	ug/L	1.0	U
1,2-Dichloropropane	78-87-5	BLK	0.75U	ug/L	1.0	U
1,3-Dichlorobenzene	541-73-1	BLK	0.75U	ug/L	1.0	U
1,3-Dichloropropene, Total	542-75-6	BLK	1.5U	ug/L	2.0	U
1,4-Dichlorobenzene	106-46-7	BLK	0.75U	ug/L	1.0	U
2-Butanone	78-93-3	BLK	3.8U	ug/L	5.0	U
2-Hexanone	591-78-6	BLK	3.8U	ug/L	5.0	U
4-Methyl-2-Pentanone(MIBK)	108-10-1	BLK	3.8U	ug/L	5.0	U
Acetone	67-64-1	BLK	3.8U	ug/L	5.0	U
Benzene	71-43-2	BLK	0.75U	ug/L	1.0	U
Bromochloromethane	74-97-5	BLK	0.75U	ug/L	1.0	U

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
Bromodichloromethane	75-27-4	BLK	0.75U	ug/L	1.0	U
Bromoform	75-25-2	BLK	0.75U	ug/L	1.0	U
Bromomethane	74-83-9	BLK	0.75U	ug/L	1.0	U
Carbon Disulfide	75-15-0	BLK	0.75U	ug/L	1.0	U
Carbon Tetrachloride	56-23-5	BLK	0.75U	ug/L	1.0	U
Chlorobenzene	108-90-7	BLK	0.75U	ug/L	1.0	U
Chlorodibromomethane	124-48-1	BLK	0.75U	ug/L	1.0	U
Chloroethane	75-00-3	BLK	0.75U	ug/L	1.0	U
Chloroform	67-66-3	BLK	0.75U	ug/L	1.0	U
Chloromethane	74-87-3	BLK	0.75U	ug/L	1.0	U
cis-1,2-Dichloroethene	156-59-2	BLK	0.75U	ug/L	1.0	U
Cyclohexane	110-82-7	BLK	0.75U	ug/L	1.0	U
Dichlorodifluoromethane	75-71-8	BLK	0.75U	ug/L	1.0	U
Ethylbenzene	100-41-4	BLK	0.75U	ug/L	1.0	U
Freon 113	76-13-1	BLK	0.75U	ug/L	1.0	U
Iodomethane	74-88-4	BLK	0.75U	ug/L	1.0	U
Isopropylbenzene	98-82-8	BLK	0.75U	ug/L	1.0	U
Methyl acetate	79-20-9	BLK	0.75U	ug/L	1.0	U
Methyl cyclohexane	108-87-2	BLK	0.75U	ug/L	1.0	U
Methyl t-Butyl Ether	1634-04-4	BLK	0.75U	ug/L	1.0	U
Methylene Chloride	75-09-2	BLK	0.75U	ug/L	1.0	U
Styrene	100-42-5	BLK	0.75U	ug/L	1.0	U
Tetrachloroethene	127-18-4	BLK	0.75U	ug/L	1.0	U
Toluene	108-88-3	BLK	0.75U	ug/L	1.0	U
Total Xylenes	1330-20-7	BLK	2.3U	ug/L	3.0	U
trans-1,2-Dichloroethene	156-60-5	BLK	0.75U	ug/L	1.0	U
Trichloroethene	79-01-6	BLK	0.75U	ug/L	1.0	U
Trichlorofluoromethane	75-69-4	BLK	0.75U	ug/L	1.0	U
Vinyl Chloride	75-01-4	BLK	0.75U	ug/L	1.0	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	BLK	29.50	30	98.3	81 - 118	
4-Bromofluorobenzene	460-00-4	BLK	31.30	30	104	85 - 114	
Dibromofluoromethane	1868-53-7	BLK	25.80	30	86.1	80 - 119	
Toluene-d8	2037-26-5	BLK	28.70	30	95.7	89 - 112	

Lab Control Standard 3528441 (LCS) Created on 07/12/2022 18:43 For QC Batch 863874

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1-Trichloroethane	71-55-6	LCS	19		20	95.1	74 - 131		
1,1,2,2-Tetrachloroethane	79-34-5	LCS	20.20		20	101	71 - 121		
1,1,2-Trichloroethane	79-00-5	LCS	18.70		20	93.3	80 - 119		

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1-Dichloroethane	75-34-3	LCS	19.80		20	99	77 - 125		
1,1-Dichloroethene	75-35-4	LCS	21.50		20	108	71 - 131		
1,2,3-Trichlorobenzene	87-61-6	LCS	18.40		20	92	69 - 129		
1,2,4-Trichlorobenzene	120-82-1	LCS	18.50		20	92.3	69 - 130		
1,2-Dibromo-3-chloropropane	96-12-8	LCS	16.20		20	81.2	62 - 128		
1,2-Dibromoethane	106-93-4	LCS	18.40		20	92.1	77 - 121		
1,2-Dichlorobenzene	95-50-1	LCS	18.90		20	94.3	80 - 119		
1,2-Dichloroethane	107-06-2	LCS	19.90		20	99.6	73 - 128		
1,2-Dichloropropane	78-87-5	LCS	20.10		20	101	78 - 122		
1,3-Dichlorobenzene	541-73-1	LCS	18.80		20	94	80 - 119		
1,3-Dichloropropene, Total	542-75-6	LCS	39		40	97.5	75 - 124		
1,4-Dichlorobenzene	106-46-7	LCS	18.20		20	90.8	79 - 118		
2-Butanone	78-93-3	LCS	75.90		100	75.9	56 - 143		
2-Hexanone	591-78-6	LCS	91.30		100	91.3	57 - 139		
4-Methyl-2-Pentanone(MIBK)	108-10-1	LCS	103		100	103	67 - 130		
Acetone	67-64-1	LCS	115		100	115	39 - 160		
Benzene	71-43-2	LCS	19.70		20	98.5	79 - 120		
Bromochloromethane	74-97-5	LCS	19.30		20	96.7	78 - 123		
Bromodichloromethane	75-27-4	LCS	19.30		20	96.4	79 - 125		
Bromoform	75-25-2	LCS	18.60		20	92.8	66 - 130		
Bromomethane	74-83-9	LCS	19.30		20	96.7	53 - 141		
Carbon Disulfide	75-15-0	LCS	22.80		20	114	64 - 133		
Carbon Tetrachloride	56-23-5	LCS	18.90		20	94.7	72 - 136		
Chlorobenzene	108-90-7	LCS	17.40		20	87.1	82 - 118		
Chlorodibromomethane	124-48-1	LCS	17.40		20	87.2	74 - 126		
Chloroethane	75-00-3	LCS	19.90		20	99.7	60 - 138		
Chloroform	67-66-3	LCS	19.10		20	95.6	79 - 124		
Chloromethane	74-87-3	LCS	22.50		20	112	50 - 139		
cis-1,2-Dichloroethene	156-59-2	LCS	20.70		20	104	78 - 123		
Cyclohexane	110-82-7	LCS	21		20	105	71 - 130		
Dichlorodifluoromethane	75-71-8	LCS	21		20	105	32 - 152		
Ethylbenzene	100-41-4	LCS	17.90		20	89.4	79 - 121		
Freon 113	76-13-1	LCS	20.70		20	104	70 - 136		
Iodomethane	74-88-4	LCS	18.70		20	93.6	69 - 131		
Isopropylbenzene	98-82-8	LCS	20		20	99.9	72 - 131		
Methyl acetate	79-20-9	LCS	17.20		20	85.8	56 - 136		
Methyl cyclohexane	108-87-2	LCS	18.90		20	94.6	72 - 132		
Methyl t-Butyl Ether	1634-04-4	LCS	20.10		20	101	71 - 124		
Methylene Chloride	75-09-2	LCS	20.20		20	101	74 - 124		
Styrene	100-42-5	LCS	21.10		20	106	78 - 123		
Tetrachloroethene	127-18-4	LCS	16.20		20	81.1	74 - 129		
Toluene	108-88-3	LCS	18.60		20	92.9	80 - 121		
Total Xylenes	1330-20-7	LCS	55.30		60	92.1	79 - 121		
trans-1,2-Dichloroethene	156-60-5	LCS	19.70		20	98.6	75 - 124		
Trichloroethene	79-01-6	LCS	18.70		20	93.7	79 - 123		
Trichlorofluoromethane	75-69-4	LCS	18.90		20	94.5	65 - 141		
Vinyl Chloride	75-01-4	LCS	20.10		20	101	58 - 137		

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	LCS	30.70	30	102	81 - 118	
4-Bromofluorobenzene	460-00-4	LCS	30.20	30	101	85 - 114	
Dibromofluoromethane	1868-53-7	LCS	27.10	30	90.4	80 - 119	
Toluene-d8	2037-26-5	LCS	27.90	30	92.9	89 - 112	

Matrix Spike 3528502 (MS) 3250989007 For QC Batch 863874

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Matrix Spike Duplicate 3528503 (MSD) 3250989007 For QC Batch 863874

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1-Trichloroethane	71-55-6	MS	20.60	0	20	103	74 - 131		
1,1,1-Trichloroethane	71-55-6	MSD	19.90	0	20	99.5	74 - 131	RPD 3.58 (Max-20)	
1,1,2,2-Tetrachloroethane	79-34-5	MS	21.80	0	20	109	71 - 121		
1,1,2,2-Tetrachloroethane	79-34-5	MSD	21.90	0	20	110	71 - 121	RPD 0.84 (Max-20)	
1,1,2-Trichloroethane	79-00-5	MS	20	0	20	99.8	80 - 119		
1,1,2-Trichloroethane	79-00-5	MSD	19.50	0	20	97.6	80 - 119	RPD 2.16 (Max-20)	
1,1-Dichloroethane	75-34-3	MS	21.50	0	20	108	77 - 125		
1,1-Dichloroethane	75-34-3	MSD	20.60	0	20	103	77 - 125	RPD 4.34 (Max-20)	
1,1-Dichloroethene	75-35-4	MS	22.80	0	20	114	71 - 131		
1,1-Dichloroethene	75-35-4	MSD	21.90	0	20	110	71 - 131	RPD 4.12 (Max-20)	
1,2,3-Trichlorobenzene	87-61-6	MS	16.20	0	20	80.9	69 - 129		
1,2,3-Trichlorobenzene	87-61-6	MSD	18.20	0	20	90.8	69 - 129	RPD 11.50 (Max-20)	
1,2,4-Trichlorobenzene	120-82-1	MS	16.30	0	20	81.4	69 - 130		
1,2,4-Trichlorobenzene	120-82-1	MSD	17.50	0	20	87.3	69 - 130	RPD 7 (Max-20)	
1,2-Dibromo-3-chloropropane	96-12-8	MS	17.40	0	20	87.2	62 - 128		
1,2-Dibromo-3-chloropropane	96-12-8	MSD	18.80	0	20	94.1	62 - 128	RPD 7.62 (Max-20)	
1,2-Dibromoethane	106-93-4	MS	18.70	0	20	93.5	77 - 121		
1,2-Dibromoethane	106-93-4	MSD	19	0	20	95	77 - 121	RPD 1.61 (Max-20)	
1,2-Dichlorobenzene	95-50-1	MS	19	0	20	95.2	80 - 119		
1,2-Dichlorobenzene	95-50-1	MSD	19.10	0	20	95.6	80 - 119	RPD 0.38 (Max-20)	
1,2-Dichloroethane	107-06-2	MS	21.30	0	20	107	73 - 128		
1,2-Dichloroethane	107-06-2	MSD	21.20	0	20	106	73 - 128	RPD 0.45 (Max-20)	
1,2-Dichloropropane	78-87-5	MS	21.20	0	20	106	78 - 122		
1,2-Dichloropropane	78-87-5	MSD	20.90	0	20	104	78 - 122	RPD 1.37 (Max-20)	
1,3-Dichlorobenzene	541-73-1	MS	19.50	0	20	97.4	80 - 119		
1,3-Dichlorobenzene	541-73-1	MSD	18.90	0	20	94.4	80 - 119	RPD 3.16 (Max-20)	
1,3-Dichloropropene, Total	542-75-6	MS	39.90	0	40	99.7	75 - 124		
1,3-Dichloropropene, Total	542-75-6	MSD	38.60	0	40	96.5	75 - 124	RPD 3.25 (Max-20)	
1,4-Dichlorobenzene	106-46-7	MS	18.90	0	20	94.7	79 - 118		
1,4-Dichlorobenzene	106-46-7	MSD	18.60	0	20	93.1	79 - 118	RPD 1.71 (Max-20)	
2-Butanone	78-93-3	MS	65.20	0	100	65.2	56 - 143		
2-Butanone	78-93-3	MSD	85.30	0	100	85.3	56 - 143	RPD 26.70* (Max-20)	

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
2-Hexanone	591-78-6	MS	96.30	0	100	96.3	57 - 139		
2-Hexanone	591-78-6	MSD	104	0	100	104	57 - 139	RPD 7.45 (Max-20)	
4-Methyl-2-Pentanone(MIBK)	108-10-1	MS	111	0	100	111	67 - 130		
4-Methyl-2-Pentanone(MIBK)	108-10-1	MSD	117	0	100	117	67 - 130	RPD 5.45 (Max-20)	
Acetone	67-64-1	MS	103	0	100	103	39 - 160		
Acetone	67-64-1	MSD	114	0	100	114	39 - 160	RPD 10.30 (Max-20)	
Benzene	71-43-2	MS	21.60	0	20	108	79 - 120		
Benzene	71-43-2	MSD	20.70	0	20	103	79 - 120	RPD 4.41 (Max-20)	
Bromochloromethane	74-97-5	MS	19.40	0	20	97.1	78 - 123		
Bromochloromethane	74-97-5	MSD	19.50	0	20	97.6	78 - 123	RPD 0.54 (Max-20)	
Bromodichloromethane	75-27-4	MS	20.60	0	20	103	79 - 125		
Bromodichloromethane	75-27-4	MSD	20.10	0	20	100	79 - 125	RPD 2.44 (Max-20)	
Bromoform	75-25-2	MS	19.20	0	20	96	66 - 130		
Bromoform	75-25-2	MSD	18.90	0	20	94.4	66 - 130	RPD 1.68 (Max-20)	
Bromomethane	74-83-9	MS	21	0	20	105	53 - 141		
Bromomethane	74-83-9	MSD	16.30	0	20	81.5	53 - 141	RPD 25.10* (Max-20)	
Carbon Disulfide	75-15-0	MS	24	0	20	120	64 - 133		
Carbon Disulfide	75-15-0	MSD	21.80	0	20	109	64 - 133	RPD 9.86 (Max-20)	
Carbon Tetrachloride	56-23-5	MS	20.60	0	20	103	72 - 136		
Carbon Tetrachloride	56-23-5	MSD	19.60	0	20	98	72 - 136	RPD 4.80 (Max-20)	
Chlorobenzene	108-90-7	MS	18.40	0	20	92	82 - 118		
Chlorobenzene	108-90-7	MSD	17.80	0	20	88.8	82 - 118	RPD 3.48 (Max-20)	
Chlorodibromomethane	124-48-1	MS	18.20	0	20	90.9	74 - 126		
Chlorodibromomethane	124-48-1	MSD	17.50	0	20	87.3	74 - 126	RPD 4.01 (Max-20)	
Chloroethane	75-00-3	MS	23.20	0	20	116	60 - 138		
Chloroethane	75-00-3	MSD	22.10	0	20	111	60 - 138	RPD 4.74 (Max-20)	
Chloroform	67-66-3	MS	20.30	0	20	102	79 - 124		
Chloroform	67-66-3	MSD	19.40	0	20	96.9	79 - 124	RPD 4.65 (Max-20)	
Chloromethane	74-87-3	MS	25.50	0	20	128	50 - 139		
Chloromethane	74-87-3	MSD	23.70	0	20	119	50 - 139	RPD 7.29 (Max-20)	
cis-1,2-Dichloroethene	156-59-2	MS	24	1.20	20	114	78 - 123		
cis-1,2-Dichloroethene	156-59-2	MSD	23.40	1.20	20	111	78 - 123	RPD 2.70 (Max-20)	
Cyclohexane	110-82-7	MS	22.10	0	20	110	71 - 130		
Cyclohexane	110-82-7	MSD	21.60	0	20	108	71 - 130	RPD 2.36 (Max-20)	
Dichlorodifluoromethane	75-71-8	MS	23.30	0	20	116	32 - 152		
Dichlorodifluoromethane	75-71-8	MSD	22.20	0	20	111	32 - 152	RPD 4.53 (Max-20)	
Ethylbenzene	100-41-4	MS	19.10	0	20	95.6	79 - 121		
Ethylbenzene	100-41-4	MSD	18.40	0	20	92	79 - 121	RPD 3.86 (Max-20)	
Freon 113	76-13-1	MS	20.80	0	20	104	70 - 136		
Freon 113	76-13-1	MSD	20	0	20	99.9	70 - 136	RPD 4.26 (Max-20)	
Iodomethane	74-88-4	MS	19.90	0	20	99.4	69 - 131		
Iodomethane	74-88-4	MSD	23.50	0	20	117	69 - 131	RPD 16.60 (Max-20)	
Isopropylbenzene	98-82-8	MS	21.60	0	20	108	72 - 131		
Isopropylbenzene	98-82-8	MSD	20.80	0	20	104	72 - 131	RPD 3.74 (Max-20)	
Methyl acetate	79-20-9	MS	15.90	0	20	79.6	56 - 136		
Methyl acetate	79-20-9	MSD	15.90	0	20	79.4	56 - 136	RPD 0.24 (Max-20)	
Methyl cyclohexane	108-87-2	MS	19.90	0	20	99.4	72 - 132		
Methyl cyclohexane	108-87-2	MSD	19.50	0	20	97.5	72 - 132	RPD 1.89 (Max-20)	
Methyl t-Butyl Ether	1634-04-4	MS	20.40	0	20	102	71 - 124		

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Methyl t-Butyl Ether	1634-04-4	MSD	20.50	0	20	102	71 - 124	RPD 0.47 (Max-20)	
Methylene Chloride	75-09-2	MS	21.10	0	20	106	74 - 124		
Methylene Chloride	75-09-2	MSD	20.70	0	20	103	74 - 124	RPD 1.99 (Max-20)	
Styrene	100-42-5	MS	22.30	0	20	111	78 - 123		
Styrene	100-42-5	MSD	21.70	0	20	109	78 - 123	RPD 2.63 (Max-20)	
Tetrachloroethene	127-18-4	MS	16.70	0	20	83.5	74 - 129		
Tetrachloroethene	127-18-4	MSD	15.70	0	20	78.3	74 - 129	RPD 6.39 (Max-20)	
Toluene	108-88-3	MS	19.80	0	20	99.2	80 - 121		
Toluene	108-88-3	MSD	19	0	20	95.1	80 - 121	RPD 4.16 (Max-20)	
Total Xylenes	1330-20-7	MS	58.10	0	60	96.8	79 - 121		
Total Xylenes	1330-20-7	MSD	55.90	0	60	93.1	79 - 121	RPD 3.89 (Max-20)	
trans-1,2-Dichloroethene	156-60-5	MS	21.90	0	20	109	75 - 124		
trans-1,2-Dichloroethene	156-60-5	MSD	21	0	20	105	75 - 124	RPD 3.95 (Max-20)	
Trichloroethene	79-01-6	MS	20.40	0	20	102	79 - 123		
Trichloroethene	79-01-6	MSD	19.80	0	20	99	79 - 123	RPD 3.11 (Max-20)	
Trichlorofluoromethane	75-69-4	MS	21	0	20	105	65 - 141		
Trichlorofluoromethane	75-69-4	MSD	19.90	0	20	99.7	65 - 141	RPD 5.08 (Max-20)	
Vinyl Chloride	75-01-4	MS	24	0	20	120	58 - 137		
Vinyl Chloride	75-01-4	MSD	22.10	0	20	110	58 - 137	RPD 8.35 (Max-20)	

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	MS	31.30	30	104	81 - 118	
1,2-Dichloroethane-d4	17060-07-0	MSD	31.90	30	106	81 - 118	
4-Bromofluorobenzene	460-00-4	MS	29.80	30	99.3	85 - 114	
4-Bromofluorobenzene	460-00-4	MSD	29.60	30	98.6	85 - 114	
Dibromofluoromethane	1868-53-7	MS	26.30	30	87.8	80 - 119	
Dibromofluoromethane	1868-53-7	MSD	27	30	89.9	80 - 119	
Toluene-d8	2037-26-5	MS	27.40	30	91.5	89 - 112	
Toluene-d8	2037-26-5	MSD	27.60	30	91.9	89 - 112	

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3250989001	MW3-3DA-062922	N/A	N/A	N/A		SW846 8260C	863496
3250989002	MW3-4DA-062922	N/A	N/A	N/A		SW846 8260C	863496
3250989003	PW3-3A-062922	N/A	N/A	N/A		SW846 8260C	863496
3250989004	P23-6D-062922	N/A	N/A	N/A		SW846 8260C	863496
3250989005	P23-7D-062922	N/A	N/A	N/A		SW846 8260C	863496
3250989006	P23-8D-062922	N/A	N/A	N/A		SW846 8260C	863496
3250989007	MW5-1DA-062922	N/A	N/A	N/A		SW846 8260C	863874
3250989008	DUP-062922-2	N/A	N/A	N/A		SW846 8260C	863496
3250989009	MW5-5D-062922	N/A	N/A	N/A		SW846 8260C	863874
3250989010	MW5-6-062922	N/A	N/A	N/A		SW846 8260C	863496
3250989011	DUP-062922-1	N/A	N/A	N/A		SW846 8260C	863496
3250989012	RW5-1-062922	N/A	N/A	N/A		SW846 8260C	863685
		N/A	N/A	N/A		SW846 8260C	863496
3250989013	RW5-2-062922	N/A	N/A	N/A		SW846 8260C	863685
		N/A	N/A	N/A		SW846 8260C	863496
3250989014	RW5-4-062922	N/A	N/A	N/A		SW846 8260C	863874
3250989015	MW8-11D-062922	N/A	N/A	N/A		SW846 8260C	863496
3250989016	EQUPBLANK-063022	N/A	N/A	N/A		SW846 8260C	863496
3250989017	MW10-3-063022	N/A	N/A	N/A		SW846 8260C	863496
3250989018	MW10-7-063022	N/A	N/A	N/A		SW846 8260C	863496
3250989019	PW10-1-063022	N/A	N/A	N/A		SW846 8260C	863874
3250989020	PW10-2-063022	N/A	N/A	N/A		SW846 8260C	863874
3250989021	PZ10-7-063022	N/A	N/A	N/A		SW846 8260C	863874
3250989022	SW3-15-062922	N/A	N/A	N/A		SW846 8260C	863874
3250989023	SW3-3-062922	N/A	N/A	N/A		SW846 8260C	863874
3250989024	SW3-2-062922	N/A	N/A	N/A		SW846 8260C	863874
3250989025	SW10-7-063022	N/A	N/A	N/A		SW846 8260C	863874
3250989026	SW10-8-063022	N/A	N/A	N/A		SW846 8260C	863874
3250989027	SW99-10-063022	N/A	N/A	N/A		SW846 8260C	863874
3250989028	TRIPBLANK	N/A	N/A	N/A		SW846 8260C	863874

301 Fulling Mill Rd, Suite A
Middletown, PA 17057
P. 717-944-5541

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 3250989
ALS Quote #:
Logged By: KSB
PM: SJB
1 of 5

Client Name: Arcadis
Address: 110 W Fayette St, Suite 300
Syracuse NY 13202
Contact: Kyle Barber
Phone#: 315-480-7397
Project Name/#: NFARS 30036646
Bill To:
Purchase Order #:
TAT: [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required: Approved?
Email? [X] -Y Lacey.Averill@Arcadis.com

	Sample Description/Location (as it will appear on the lab report)	Date Collected mm/dd/yy	Time hh:mm	SDWA Sample Type (see key)	*G or C	**Matrix (See bottom of COC)	8260C
1	MW3-3DA-062922	06/29/22	1227		G	GW	3
2	MW3-4DA-062922	06/29/22	1320		G	GW	3
3	PW3-3A-062922	06/29/22	1310		G	GW	3
4	PW3-3A-062922MS	06/29/22	1310		G	GW	3
5	PW3-3A-062922MSD	06/29/22	1310		G	GW	3
6	P23-6D-062922	06/29/22	1237		G	GW	3
7	P23-7D-062922	06/29/22	1525		G	GW	3
8	P23-8D-062922	06/29/22	1530		G	GW	3
9	MW5-10A-062922	06/29/22	1435		G	GW	3
10	DUP-062922-2	06/29/22	-		G	GW	3

ANALYSES/METHOD REQUESTED — Container Type: VOC; Container Size: 40; Preservative: HCl — Enter Number of Containers Per Sample or Field Results Below.

SAMPLED BY (Please Print, if MD include Sampler #): Sampled by Client DD 7/5/22
Comments: Level 2 Deliverable

Temp Taken By: DD Therm ID: 574 WO Temp (°C): 6°
Receipt Info completed by: DD
WV Containers 0-6°C: Y N (NA)

Cooler Custody Seals Intact	(Y)	N	NA
Sample Custody Seal Intact	Y	N	(NA)
Received on Ice	(Y)	N	NA
Coolers & Samples Intact	(Y)	N	
Correct Containers Provided	(Y)	N	
Sample Label/COC Agree	(Y)	N	
Adequate Sample Volumes	(Y)	N	
VOA only: Headspace Present	Y	(N)	NA
VOA only: Trip Blank	Y	N	(NA)

Deviations? NO YES — If YES, list below:
Client contact: Date/Tech:
NJ ≤ 4 days? Y N
Courier/Tracking #: 274998719808
Sample(s) for Radiation testing? ~~Y~~ N — Rad Screen (uCi):
Reportable SDWA Sample(s)? Y (N) — New Source? Y N
SDWA State of Origin: — New Source Contact:
PWSID #:
PWS Contact: PWS Phone #:

SDWA Sample Type Key: D=Distribution E=Entry Point R=Raw P=Plant C=Check S=Special A=Annual Startup

Sample/COC Remarks

Contains Short Hold Testing YES NO

Internal Use: If less than 48 hours - notify lab upon receipt

Date:	Time		Relinquished By / Company Name		Received By / Company Name
6-30-22	1600	1	Adam Svensson / Arcadis	2	FEDEX
		3	FEDEX	4	Dave Dutcher ALS 7/1/22 09:13
		5		6	
		7		8	
		9		10	

Data Deliverables: Standard Lvl 1; Standard Lvl 2; Standard Lvl 3; Standard Lvl 4; CLP-like; DOD; NJ RED; NJ Full; HSCA; Landfill; NJ GW
EDD: Excel Summary; Equis; Custom
Sample Disposal: Lab; Special
EDDS: Format Type:
State Samples Collected In: NY; NJ; PA; WV; FL; other

* G=Grab; C=Composite **Matrix - A=Air; D=Drinking Water; GW=Groundwater; O=Oil; LW=Liquid Waste; S=Solid/Soil/Sludge; SW=Surface Water; WP=Wipe; WW=Wastewater

ALS SHIPPING ADDRESS: 301 Fulling Mill Road, Suite A, Middletown, PA 17057

Rev 05/22

301 Fulling Mill Rd, Suite A
Middletown, PA 17057
P. 717-944-5541

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 3250989 205

ALS Quote #:

Client Name: Arcadis

Address: 100 w Fayette St. Suite 300 Syracuse NY 13202

Contact: Kyle Barber

Phone#: 315-480-7397

Project Name/#: NFARS 30036646

Bill To:

Purchase Order #:

TAT [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.

Date Required: Approved?

Email? [X] -Y Corey.Averill@Arcadis.com

Container Type	VOC									
Container Size	40									
Preservative	HCl									

ANALYSES/METHOD REQUESTED

	Sample Description/Location (as it will appear on the lab report)	Date Collected mm/dd/yy	Time hh:mm	SDWA Sample Type (see key)	*G or C	**Matrix (See bottom of COC)	8260C								
							Enter Number of Containers Per Sample or Field Results Below.								
1	MW5-IDA-062922MS	06/29/22	1435		G	GW	3								
2	MW5-IDA-062922MSD	06/29/22	1435		G	GW	3								
3	MW5-5D-062922	06/29/22	1359		G	GW	3								
4	MW5-6-062922	06/29/22	1410		G	GW	3								
5	DUP-062922-1	06/29/22	14:10		G	GW	3								
6	RW5-1-062922	06/29/22	1425		G	GW	3								
7	RW5-2-062922	06/29/22	1412		G	GW	3								
8	RW5-4-062922	06/29/22	1349		G	GW	3								
9	MW8-11D-062922	06/29/22	1455		G	GW	3								
10	Equip Blank-063022	06/30/22	1415		G	GW	3								

SAMPLED BY (Please Print, if MD include Sampler #): Sampled by Client DO 7/5/22

Comments: Level 2 Deliverable

Date:	Time		Relinquished By / Company Name		Received By / Company Name
6-30-22	1600	1	Adam Sucasas / Arcadis	2	FEDEX ALS
		3	FEDEX	4	Dave Dutcher 7/1/22 09:13
		5		6	
		7		8	
		9		10	

Receipt Information (completed by Receiving Lab)

Temp Taken By: Therm ID: WO Temp (°C)

Receipt Info completed by:

WV Containers 0-6°C Y N NA

Cooler Custody Seals Intact	Y	N	NA
Sample Custody Seal Intact	Y	N	NA
Received on Ice	Y	N	NA
Coolers & Samples Intact	Y	N	
Correct Containers Provided	Y	N	
Sample Label/COC Agree	Y	N	
Adequate Sample Volumes	Y	N	
VOA only: Headspace Present	Y	N	NA
VOA only: Trip Blank	Y	N	NA

NJ ≤ 4 days? Y N

Courier/Tracking #:

Deviations? NO YES

If YES, list below:

Client contact:

Date/Tech:

Sample(s) for Radiation testing? Y N Rad Screen (uCi)

Reportable SDWA Sample(s)? Y N New Source? Y N

SDWA State of Origin? New Source Contact:

PWSID #

PWS Contact: PWS Phone #:

SDWA Sample Type Key: D=Distribution E=Entry Point R=Raw P=Plant C=Check S=Special A=Annual Startup

Sample/COC Remarks

Contains Short Hold Testing YES NO

Internal Use: If less than 48 hours - notify lab upon receipt

Data Deliverables: [ ] Standard Lvl 1 [ ] Standard Lvl 2 [ ] Standard Lvl 3 [ ] Standard Lvl 4 [ ] CLP-like [ ] DOD [ ] NJ RED [ ] NJ Full [ ] HSCA [ ] Landfill [ ] NJ GW [ ]

EDD: [ ] Excel Summary [ ] Equis [ ] Custom

Sample Disposal: Lab [ ] Special [ ]

EDDS: Format Type

State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] WV [ ] FL [ ] other

* G=Grab; C=Composite **Matrix - A=Air; D=Drinking Water; GW=Groundwater; O=Oil; LW=Liquid Waste; S=Solid/Soil/Sludge; SW=Surface Water; WP=Wipe; WW=Wastewater

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Rev 05/22

301 Fulling Mill Rd, Suite A
Middletown, PA 17057
P. 717-944-5541

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 3250989 — 3 of 5
ALS Quote #:

Client Name: Arcadis
Address: 110 W Fayette St. Suite 300 Syracuse NY 13202
Contact: Kyle Barber
Phone#: 315-480-7397
Project Name/#: NFARS 30036646
Bill To:
Purchase Order #:
TAT: [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required: Approved?
Email? [X] -Y Corey.Averill@Arcadis.com

	Container Type	VOC									
	Container Size	40									
	Preservative	HCL									
	ANALYSES/METHOD REQUESTED										
	SDWA Sample Type (see key)										
	*G or C										
	**Matrix (See bottom of COC)										
	8260C										
Sample Description/Location (as it will appear on the lab report)	Date Collected mm/dd/yy	Time hh:mm	Enter Number of Containers Per Sample or Field Results Below.									
1 MW10-3-063022	06/30/22	1304		G	GW	3						
2 MW10-7-063022	06/30/22	1325		G	GW	3						
3 PW10-1-063022	06/30/22	1335		G	GW	3						
4 PW10-2-063022	06/30/22	1310		G	GW	3						
5 P210-7-063022	06/30/22	1345		G	GW	3						
6 ~~MW13-4D-062922~~	~~06/29/22~~	~~1105~~		~~G~~	~~GW~~	~~3~~						
7 ~~MW13-6D-062922~~	~~06/29/22~~	~~1124~~		~~G~~	~~GW~~	~~3~~						
8 ~~PW13-1-062922~~	~~06/29/22~~	~~1130~~		~~G~~	~~GW~~	~~3~~						
9 ~~PW13-4D-062922~~	~~06/29/22~~	~~1112~~		~~G~~	~~GW~~	~~3~~						
10 SW3-15-062922	06/29/22	1258		G	SW	3						

SAMPLED BY (Please Print, if MD include Sampler #): SD
Sampled by Client 7/5/22

Comments: Level 2 Deliverable

Date:	Time	Relinquished By / Company Name		Received By / Company Name
6-30-22	1680	1 Adam Swensson/Arcadis	2	FEDEX
		3 FEDEX	4	Dave Dutcher ALS 7/1/22 09:13
		5	6	
		7	8	
		9	10	

Receipt Information (completed by Receiving Lab)
Temp Taken By: Therm ID: WO Temp (°C)
Receipt Info completed by: WV Containers 0-6°C Y N NA

Cooler Custody Seals Intact	Y	N	NA
Sample Custody Seal Intact	Y	N	NA
Received on Ice	Y	N	NA
Coolers & Samples Intact	Y	N	
Correct Containers Provided	Y	N	
Sample Label/COC Agree	Y	N	
Adequate Sample Volumes	Y	N	
VOA only: Headspace Present	Y	N	NA
VOA only: Trip Blank	Y	N	NA

Deviations? NO YES
If YES, llist below:
Client contact:
Date/Tech:
NJ ≤ 4 days? Y N
Courier/Tracking #:

Sample(s) for Radiation testing? Y N — Rad Screen (uCi)
Reportable SDWA Sample(s)? Y N — New Source? Y N
SDWA State of Origin? — New Source Contact:
PWSID #
PWS Contact: PWS Phone #:

SDWA Sample Type Key: D=Distribution E=Entry Point R=Raw P=Plant C=Check S=Special A=Annual Startup

Sample/COC Remarks

Contains Short Hold Testing YES NO

Internal Use: If less than 48 hours - notify lab upon receipt

Data Deliverables: [ ] Standard Lvl 1 [ ] Standard Lvl 2 [ ] Standard Lvl 3 [ ] Standard Lvl 4 [ ] CLP-like [ ] DOD [ ] NJ RED [ ] NJ Full [ ] HSCA [ ] Landfill [ ] NJ GW [ ] _____

EDD: [ ] Excel Summary [ ] Equis [ ] Custom

Sample Disposal: [ ] Lab [ ] Special

EDDS: Format Type

State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] WV [ ] FL [ ] other

* G=Grab; C=Composite **Matrix - A=Air; D=Drinking Water; GW=Groundwater; O=Oil; LW=Liquid Waste; S=Solid/Soil/Sludge; SW=Surface Water; WP=Wipe; WW=Wastewater

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Middletown, PA 17057
P. 717-944-5541

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 3250989 — 1 of 5
ALS Quote #:

Client Name: Arcadis
Address: 110 W Fayette St. Suite 300 Syracuse NY 13202
Contact: Kyle Barber
Phone#: 315-480-7397
Project Name/#: NFARS 30036646
Bill To:
Purchase Order #:
TAT [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required: Approved?
Email? [X] Y Cory.Averill@Arcadis.com

	Container Type	VOC 40 (200)									
	Container Size	40									
	Preservative	HCL									
	ANALYSES/METHOD REQUESTED										
	SDWA Sample Type (see key)										
	*G or C										
	**Matrix (See bottom of COC)										
	8260C										
Sample Description/Location (as it will appear on the lab report)	Date Collected mm/dd/yy	Time hh:mm	Enter Number of Containers Per Sample or Field Results Below.									
1 SW 3-3-062922	06/29/22	1242		G	SW	3						
2 SW3-2-062922	06/29/22	1331		G	SW	3						
3 SW10-7-063022	06/30/22	1355		G	SW	3						
4 SW10-8-063022	06/30/22	1316		G	SW	3						
5 SW99-10-063022	06/30/22	1245		G	SW	3						
6 TRIP BLANK	-	-		G	GW	2						
7						DO 7/1/22						
8												
9												
10												

SAMPLED BY (Please Print, if MD include Sampler #): Sampled by Client DO 7/5/22
Comments: Level 2 Deliverable

Receipt Information (completed by Receiving Lab)

Temp Taken By: Therm ID: WO Temp (°C)
Receipt Info completed by:
WV Containers 0-6°C Y N NA

Cooler Custody Seals Intact	Y	N	NA
Sample Custody Seal Intact	Y	N	NA
Received on Ice	Y	N	NA
Coolers & Samples Intact	Y	N	
Correct Containers Provided	Y	N	
Sample Label/COC Agree	Y	N	
Adequate Sample Volumes	Y	N	
VOA only: Headspace Present	Y	N	NA
VOA only: Trip Blank	Y	N	NA

Deviations? NO YES
If YES, list below:
Client contact:
Date/Tech:

NJ ≤ 4 days? Y N
Courier/Tracking #:

Sample(s) for Radiation testing? Y N — Rad Screen (uCi)
Reportable SDWA Sample(s)? Y N — New Source? Y N
SDWA State of Origin? — New Source Contact:
PWSID #
PWS Contact: PWS Phone #:

SDWA Sample Type Key: D=Distribution E=Entry Point R=Raw P=Plant C=Check S=Special A=Annual Startup

Sample/COC Remarks

Contains Short Hold Testing YES NO

Internal Use: If less than 48 hours - notify lab upon receipt

Date:	Time		Relinquished By / Company Name		Received By / Company Name
6-30-22	1600	1	Adam Svensson / Arcadis	2	FEDEx
		3	FEDEx	4	Dawn Dutcher/ALS 7/1/22 09:13
		5		6	
		7		8	
		9		10	

Data Deliverables: [ ] Standard Lvl 1 [ ] Standard Lvl 2 [ ] Standard Lvl 3 [ ] Standard Lvl 4 — [ ] CLP-like [ ] DOD [ ] NJ RED [ ] NJ Full — [ ] HSCA [ ] Landfill [ ] NJ GW

EDD: [ ] Excel Summary [ ] Equis [ ] Custom

Sample Disposal: Lab [ ] Special [ ]

EDDS: Format Type

State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] WV [ ] FL [ ] other

* G=Grab; C=Composite **Matrix - A=Air; D=Drinking Water; GW=Groundwater; O=Oil; LW=Liquid Waste; S=Solid/Soil/Sludge; SW=Surface Water; WP=Wipe; WW=Wastewater

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Middletown, PA 17057
P. 717-944-5541

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: J250989 508

ALS Quote #:

Client Name: Arcadis

Address: 110 W Fayette St, Suite 300
Syracuse NY 13202

Contact: Kyle Barber

Phone#: 315-480-7397

Project Name/#: NFARS 30036646

Bill To:

Purchase Order #:

TAT [X] Normal-Standard TAT is 10-12 business days.
[ ] Rush-Subject to ALS approval and surcharges.

Date Required: Approved?

Email? [X] -Y Corey.Averill@Arcadis.com

	Container Type	Container Size	Preservative
	VOC	40	HCL

ANALYSES/METHOD REQUESTED

	Sample Description/Location (as it will appear on the lab report)	Date Collected mm/dd/yy	Time hh:mm	SDWA Sample Type (see key)	*G or C	**Matrix (See bottom of COC)	J250989	Enter Number of Containers Per Sample or Field Results Below.
1	MW13-4D-062922	06/29/22	1105		G	GW	3	
2	~~MW13-5D-062922~~	~~06/29/22~~	~~1124~~		G	GW	3	
3	PW13-1-062922	06/29/22	1130		G	GW	3	
4	PW13-4D-062922	06/29/22	1112		G	GW	3	
5	MW13-5D-062922	06/29/22	1124		G	GW	3	
6								
7								
8								
9								
10								

SAMPLED BY (Please Print, if MD include Sampler #): Sampled by Client DP 7/5/22

Comments: Level 4 Deliverable

Date:	Time		Relinquished By / Company Name		Received By / Company Name
6-30-22	1600	1	Adam Svensson/Arcadis	2	FEDEX
		3	FEDEX	4	Dave Dutcher ALS 7/1/22 09:13
		5		6	
		7		8	
		9		10	

Receipt Information (completed by Receiving Lab)

Temp Taken By: Therm ID: WO Temp (°C)

Receipt Info completed by:

WV Containers 0-6°C Y N NA

Cooler Custody Seals Intact	Y	N	NA
Sample Custody Seal Intact	Y	N	NA
Received on Ice	Y	N	NA
Coolers & Samples Intact	Y	N	
Correct Containers Provided	Y	N	
Sample Label/COC Agree	Y	N	
Adequate Sample Volumes	Y	N	
VOA only: Headspace Present	Y	N	NA
VOA only: Trip Blank	Y	N	NA

NJ ≤ 4 days? Y N

Courier/Tracking #:

Deviations? NO YES

If YES, list below:

Client contact:

Date/Tech:

Sample(s) for Radiation testing? Y N Rad Screen (uCi)

Reportable SDWA Sample(s)? Y N New Source? Y N

SDWA State of Origin? New Source Contact:

PWSID #

PWS Contact: PWS Phone #:

SDWA Sample Type Key: D=Distribution E=Entry Point
R=Raw P=Plant C=Check S=Special A=Annual Startup

Sample/COC Remarks

Contains Short Hold Testing YES NO

Internal Use: If less than 48 hours - notify lab upon receipt

Data Deliverables: [ ] Standard Lvl 1 [ ] Standard Lvl 2 [ ] Standard Lvl 3 [ ] Standard Lvl 4 [ ] CLP-like [ ] DOD [ ] NJ RED [ ] NJ Full [ ] HSCA [ ] Landfill [ ] NJ GW

EDD: [ ] Excel Summary [ ] Equis [ ] Custom

Sample Disposal: [ ] Lab [ ] Special

EDDS: Format Type

State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] WV [ ] FL [ ] other

* G=Grab; C=Composite **Matrix - A=Air; D=Drinking Water; GW=Groundwater; O=Oil; LW=Liquid Waste; S=Solid/Soil/Sludge; SW=Surface Water; WP=Wipe; WW=Wastewater

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

Analytical Results Report For **ARCADIS US Inc - Clifton Park, NY**

Project AUC031|NFARS 30036646
Workorder 3251222
Report ID 181181 on 7/13/2022

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Jul 01, 2022.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Susan Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

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ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):
Andy Vitolins - Arcadis
Erika Denkenberger - Arcadis
Katherine Clubine - Arcadis
Corey Averill - Arcadis

Susan Scherer

Susan Scherer *(ALS Digital Signature)*
Project Coordinator

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Sample Summary

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collector	Collection Company
3250989029	MW13-4D-062922	Ground Water	06/29/2022 11:05	07/01/2022 09:13	CBC	Collected By Client
3250989030	PW13-1-062922	Ground Water	06/29/2022 11:30	07/01/2022 09:13	CBC	Collected By Client
3250989031	PW13-4D-062922	Ground Water	06/29/2022 11:12	07/01/2022 09:13	CBC	Collected By Client
3250989032	MW13-5D-062922	Ground Water	06/29/2022 11:24	07/01/2022 09:13	CBC	Collected By Client

Reference

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136.
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND) above the MDL
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits
#	Please reference the result in the Results Section for analyte-level flags.

Project Notations

Sample Notations

Lab ID	Sample ID

Result Notations

Notation Ref.

Detected Results Summary

Client Sample ID	MW13-4D-062922	Collected	06/29/2022 11:05
Lab Sample ID	3250989029	Lab Receipt	07/01/2022 09:13

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
cis-1,2-Dichloroethene	10.1	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	5.7	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	PW13-1-062922	Collected	06/29/2022 11:30
Lab Sample ID	3250989030	Lab Receipt	07/01/2022 09:13

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
cis-1,2-Dichloroethene	11.7	ug/L	1.0	0.75	0.33	SW846 8260C	#
trans-1,2-Dichloroethene	0.45J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Trichloroethene	0.97J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	4.7	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	PW13-4D-062922	Collected	06/29/2022 11:12
Lab Sample ID	3250989031	Lab Receipt	07/01/2022 09:13

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
cis-1,2-Dichloroethene	3.7	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	MW13-5D-062922	Collected	06/29/2022 11:24
Lab Sample ID	3250989032	Lab Receipt	07/01/2022 09:13

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
cis-1,2-Dichloroethene	36.0	ug/L	1.0	0.75	0.33	SW846 8260C	#
trans-1,2-Dichloroethene	0.39J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	1.3	ug/L	1.0	0.75	0.33	SW846 8260C	#

Results

Client Sample ID	MW13-4D-062922	Collected	06/29/2022 11:05
Lab Sample ID	3250989029	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/13/2022 02:59	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/13/2022 02:59	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 02:59	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 02:59	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 02:59	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 02:59	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
cis-1,2-Dichloroethene	10.1		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/13/2022 02:59	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A

Results

Client Sample ID	**MW13-4D-062922**	Collected	**06/29/2022 11:05**
Lab Sample ID	**3250989029**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A
Vinyl Chloride	5.7		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 02:59	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	103%	81 – 118	07/13/2022 02:59	
4-Bromofluorobenzene	460-00-4	105%	85 – 114	07/13/2022 02:59	
Dibromofluoromethane	1868-53-7	89.4%	80 – 119	07/13/2022 02:59	
Toluene-d8	2037-26-5	97.1%	89 – 112	07/13/2022 02:59	

Results

Client Sample ID	PW13-1-062922	Collected	06/29/2022 11:30
Lab Sample ID	3250989030	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/13/2022 03:22	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/13/2022 03:22	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 03:22	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 03:22	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 03:22	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 03:22	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
cis-1,2-Dichloroethene	11.7		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/13/2022 03:22	PDK	A
trans-1,2-Dichloroethene	0.45J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A

Results

Client Sample ID	**PW13-1-062922**	Collected	**06/29/2022 11:30**
Lab Sample ID	**3250989030**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.97J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A
Vinyl Chloride	4.7		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:22	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	99.9%	81 – 118	07/13/2022 03:22	
4-Bromofluorobenzene	460-00-4	102%	85 – 114	07/13/2022 03:22	
Dibromofluoromethane	1868-53-7	88.7%	80 – 119	07/13/2022 03:22	
Toluene-d8	2037-26-5	95.9%	89 – 112	07/13/2022 03:22	

Results

Client Sample ID	PW13-4D-062922	Collected	06/29/2022 11:12
Lab Sample ID	3250989031	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/13/2022 03:44	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/13/2022 03:44	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 03:44	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 03:44	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 03:44	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 03:44	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
cis-1,2-Dichloroethene	3.7		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/13/2022 03:44	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A

Results

Client Sample ID	**PW13-4D-062922**	Collected	**06/29/2022 11:12**
Lab Sample ID	**3250989031**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 03:44	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	102%	81 – 118	07/13/2022 03:44	
4-Bromofluorobenzene	460-00-4	105%	85 – 114	07/13/2022 03:44	
Dibromofluoromethane	1868-53-7	88.9%	80 – 119	07/13/2022 03:44	
Toluene-d8	2037-26-5	94.5%	89 – 112	07/13/2022 03:44	

Results

Client Sample ID	MW13-5D-062922	Collected	06/29/2022 11:24
Lab Sample ID	3250989032	Lab Receipt	07/01/2022 09:13

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	07/13/2022 04:06	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	07/13/2022 04:06	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 04:06	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 04:06	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 04:06	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	07/13/2022 04:06	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
cis-1,2-Dichloroethene	36.0		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	07/13/2022 04:06	PDK	A
trans-1,2-Dichloroethene	0.39J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A

Results

Client Sample ID	**MW13-5D-062922**	Collected	**06/29/2022 11:24**
Lab Sample ID	**3250989032**	Lab Receipt	**07/01/2022 09:13**

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A
Vinyl Chloride	1.3		ug/L	1.0	0.75	0.33	SW846 8260C	1	07/13/2022 04:06	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	99.7%	81 – 118	07/13/2022 04:06	
4-Bromofluorobenzene	460-00-4	104%	85 – 114	07/13/2022 04:06	
Dibromofluoromethane	1868-53-7	86.4%	80 – 119	07/13/2022 04:06	
Toluene-d8	2037-26-5	94.6%	89 – 112	07/13/2022 04:06	

Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3250989029	MW13-4D-062922	SW846 8260C	N/A	
3250989030	PW13-1-062922	SW846 8260C	N/A	
3250989031	PW13-4D-062922	SW846 8260C	N/A	
3250989032	MW13-5D-062922	SW846 8260C	N/A	

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS

QC Batch

QC Batch	863874	Prep Method	N/A
Date	N/A	Analysis Method	SW846 8260C
Tech.			

Associated Samples

3250989029 3250989030 3250989031 3250989032

Matrix Spike 3528502 (MS) 3250989007 (non-Project Sample) For QC Batch 863874

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Matrix Spike Duplicate 3528503 (MSD) 3250989007 (non-Project Sample) For QC Batch 863874

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1-Trichloroethane	71-55-6	MS	20.60	0	20	103	74 - 131		
1,1,1-Trichloroethane	71-55-6	MSD	19.90	0	20	99.5	74 - 131	RPD 3.58 (Max-20)	
1,1,2,2-Tetrachloroethane	79-34-5	MS	21.80	0	20	109	71 - 121		
1,1,2,2-Tetrachloroethane	79-34-5	MSD	21.90	0	20	110	71 - 121	RPD 0.84 (Max-20)	
1,1,2-Trichloroethane	79-00-5	MS	20	0	20	99.8	80 - 119		
1,1,2-Trichloroethane	79-00-5	MSD	19.50	0	20	97.6	80 - 119	RPD 2.16 (Max-20)	
1,1-Dichloroethane	75-34-3	MS	21.50	0	20	108	77 - 125		
1,1-Dichloroethane	75-34-3	MSD	20.60	0	20	103	77 - 125	RPD 4.34 (Max-20)	
1,1-Dichloroethene	75-35-4	MS	22.80	0	20	114	71 - 131		
1,1-Dichloroethene	75-35-4	MSD	21.90	0	20	110	71 - 131	RPD 4.12 (Max-20)	
1,2,3-Trichlorobenzene	87-61-6	MS	16.20	0	20	80.9	69 - 129		
1,2,3-Trichlorobenzene	87-61-6	MSD	18.20	0	20	90.8	69 - 129	RPD 11.50 (Max-20)	
1,2,4-Trichlorobenzene	120-82-1	MS	16.30	0	20	81.4	69 - 130		
1,2,4-Trichlorobenzene	120-82-1	MSD	17.50	0	20	87.3	69 - 130	RPD 7 (Max-20)	
1,2-Dibromo-3-chloropropane	96-12-8	MS	17.40	0	20	87.2	62 - 128		
1,2-Dibromo-3-chloropropane	96-12-8	MSD	18.80	0	20	94.1	62 - 128	RPD 7.62 (Max-20)	
1,2-Dibromoethane	106-93-4	MS	18.70	0	20	93.5	77 - 121		
1,2-Dibromoethane	106-93-4	MSD	19	0	20	95	77 - 121	RPD 1.61 (Max-20)	
1,2-Dichlorobenzene	95-50-1	MS	19	0	20	95.2	80 - 119		
1,2-Dichlorobenzene	95-50-1	MSD	19.10	0	20	95.6	80 - 119	RPD 0.38 (Max-20)	
1,2-Dichloroethane	107-06-2	MS	21.30	0	20	107	73 - 128		
1,2-Dichloroethane	107-06-2	MSD	21.20	0	20	106	73 - 128	RPD 0.45 (Max-20)	
1,2-Dichloropropane	78-87-5	MS	21.20	0	20	106	78 - 122		
1,2-Dichloropropane	78-87-5	MSD	20.90	0	20	104	78 - 122	RPD 1.37 (Max-20)	
1,3-Dichlorobenzene	541-73-1	MS	19.50	0	20	97.4	80 - 119		
1,3-Dichlorobenzene	541-73-1	MSD	18.90	0	20	94.4	80 - 119	RPD 3.16 (Max-20)	
1,3-Dichloropropene, Total	542-75-6	MS	39.90	0	40	99.7	75 - 124		
1,3-Dichloropropene, Total	542-75-6	MSD	38.60	0	40	96.5	75 - 124	RPD 3.25 (Max-20)	
1,4-Dichlorobenzene	106-46-7	MS	18.90	0	20	94.7	79 - 118		
1,4-Dichlorobenzene	106-46-7	MSD	18.60	0	20	93.1	79 - 118	RPD 1.71 (Max-20)	
2-Butanone	78-93-3	MS	65.20	0	100	65.2	56 - 143		
2-Butanone	78-93-3	MSD	85.30	0	100	85.3	56 - 143	RPD 26.70* (Max-20)	
2-Hexanone	591-78-6	MS	96.30	0	100	96.3	57 - 139		
2-Hexanone	591-78-6	MSD	104	0	100	104	57 - 139	RPD 7.45 (Max-20)	
4-Methyl-2-Pentanone(MIBK)	108-10-1	MS	111	0	100	111	67 - 130		

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
4-Methyl-2-Pentanone(MIBK)	108-10-1	MSD	117	0	100	117	67 - 130	RPD 5.45 (Max-20)	
Acetone	67-64-1	MS	103	0	100	103	39 - 160		
Acetone	67-64-1	MSD	114	0	100	114	39 - 160	RPD 10.30 (Max-20)	
Benzene	71-43-2	MS	21.60	0	20	108	79 - 120		
Benzene	71-43-2	MSD	20.70	0	20	103	79 - 120	RPD 4.41 (Max-20)	
Bromochloromethane	74-97-5	MS	19.40	0	20	97.1	78 - 123		
Bromochloromethane	74-97-5	MSD	19.50	0	20	97.6	78 - 123	RPD 0.54 (Max-20)	
Bromodichloromethane	75-27-4	MS	20.60	0	20	103	79 - 125		
Bromodichloromethane	75-27-4	MSD	20.10	0	20	100	79 - 125	RPD 2.44 (Max-20)	
Bromoform	75-25-2	MS	19.20	0	20	96	66 - 130		
Bromoform	75-25-2	MSD	18.90	0	20	94.4	66 - 130	RPD 1.68 (Max-20)	
Bromomethane	74-83-9	MS	21	0	20	105	53 - 141		
Bromomethane	74-83-9	MSD	16.30	0	20	81.5	53 - 141	RPD 25.10* (Max-20)	
Carbon Disulfide	75-15-0	MS	24	0	20	120	64 - 133		
Carbon Disulfide	75-15-0	MSD	21.80	0	20	109	64 - 133	RPD 9.86 (Max-20)	
Carbon Tetrachloride	56-23-5	MS	20.60	0	20	103	72 - 136		
Carbon Tetrachloride	56-23-5	MSD	19.60	0	20	98	72 - 136	RPD 4.80 (Max-20)	
Chlorobenzene	108-90-7	MS	18.40	0	20	92	82 - 118		
Chlorobenzene	108-90-7	MSD	17.80	0	20	88.8	82 - 118	RPD 3.48 (Max-20)	
Chlorodibromomethane	124-48-1	MS	18.20	0	20	90.9	74 - 126		
Chlorodibromomethane	124-48-1	MSD	17.50	0	20	87.3	74 - 126	RPD 4.01 (Max-20)	
Chloroethane	75-00-3	MS	23.20	0	20	116	60 - 138		
Chloroethane	75-00-3	MSD	22.10	0	20	111	60 - 138	RPD 4.74 (Max-20)	
Chloroform	67-66-3	MS	20.30	0	20	102	79 - 124		
Chloroform	67-66-3	MSD	19.40	0	20	96.9	79 - 124	RPD 4.65 (Max-20)	
Chloromethane	74-87-3	MS	25.50	0	20	128	50 - 139		
Chloromethane	74-87-3	MSD	23.70	0	20	119	50 - 139	RPD 7.29 (Max-20)	
cis-1,2-Dichloroethene	156-59-2	MS	24	1.20	20	114	78 - 123		
cis-1,2-Dichloroethene	156-59-2	MSD	23.40	1.20	20	111	78 - 123	RPD 2.70 (Max-20)	
Cyclohexane	110-82-7	MS	22.10	0	20	110	71 - 130		
Cyclohexane	110-82-7	MSD	21.60	0	20	108	71 - 130	RPD 2.36 (Max-20)	
Dichlorodifluoromethane	75-71-8	MS	23.30	0	20	116	32 - 152		
Dichlorodifluoromethane	75-71-8	MSD	22.20	0	20	111	32 - 152	RPD 4.53 (Max-20)	
Ethylbenzene	100-41-4	MS	19.10	0	20	95.6	79 - 121		
Ethylbenzene	100-41-4	MSD	18.40	0	20	92	79 - 121	RPD 3.86 (Max-20)	
Freon 113	76-13-1	MS	20.80	0	20	104	70 - 136		
Freon 113	76-13-1	MSD	20	0	20	99.9	70 - 136	RPD 4.26 (Max-20)	
Iodomethane	74-88-4	MS	19.90	0	20	99.4	69 - 131		
Iodomethane	74-88-4	MSD	23.50	0	20	117	69 - 131	RPD 16.60 (Max-20)	
Isopropylbenzene	98-82-8	MS	21.60	0	20	108	72 - 131		
Isopropylbenzene	98-82-8	MSD	20.80	0	20	104	72 - 131	RPD 3.74 (Max-20)	
Methyl acetate	79-20-9	MS	15.90	0	20	79.6	56 - 136		
Methyl acetate	79-20-9	MSD	15.90	0	20	79.4	56 - 136	RPD 0.24 (Max-20)	
Methyl cyclohexane	108-87-2	MS	19.90	0	20	99.4	72 - 132		
Methyl cyclohexane	108-87-2	MSD	19.50	0	20	97.5	72 - 132	RPD 1.89 (Max-20)	
Methyl t-Butyl Ether	1634-04-4	MS	20.40	0	20	102	71 - 124		
Methyl t-Butyl Ether	1634-04-4	MSD	20.50	0	20	102	71 - 124	RPD 0.47 (Max-20)	
Methylene Chloride	75-09-2	MS	21.10	0	20	106	74 - 124		
Methylene Chloride	75-09-2	MSD	20.70	0	20	103	74 - 124	RPD 1.99 (Max-20)	

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Styrene	100-42-5	MS	22.30	0	20	111	78 - 123		
Styrene	100-42-5	MSD	21.70	0	20	109	78 - 123	RPD 2.63 (Max-20)	
Tetrachloroethene	127-18-4	MS	16.70	0	20	83.5	74 - 129		
Tetrachloroethene	127-18-4	MSD	15.70	0	20	78.3	74 - 129	RPD 6.39 (Max-20)	
Toluene	108-88-3	MS	19.80	0	20	99.2	80 - 121		
Toluene	108-88-3	MSD	19	0	20	95.1	80 - 121	RPD 4.16 (Max-20)	
Total Xylenes	1330-20-7	MS	58.10	0	60	96.8	79 - 121		
Total Xylenes	1330-20-7	MSD	55.90	0	60	93.1	79 - 121	RPD 3.89 (Max-20)	
trans-1,2-Dichloroethene	156-60-5	MS	21.90	0	20	109	75 - 124		
trans-1,2-Dichloroethene	156-60-5	MSD	21	0	20	105	75 - 124	RPD 3.95 (Max-20)	
Trichloroethene	79-01-6	MS	20.40	0	20	102	79 - 123		
Trichloroethene	79-01-6	MSD	19.80	0	20	99	79 - 123	RPD 3.11 (Max-20)	
Trichlorofluoromethane	75-69-4	MS	21	0	20	105	65 - 141		
Trichlorofluoromethane	75-69-4	MSD	19.90	0	20	99.7	65 - 141	RPD 5.08 (Max-20)	
Vinyl Chloride	75-01-4	MS	24	0	20	120	58 - 137		
Vinyl Chloride	75-01-4	MSD	22.10	0	20	110	58 - 137	RPD 8.35 (Max-20)	

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	MS	31.30	30	104	81 - 118	
1,2-Dichloroethane-d4	17060-07-0	MSD	31.90	30	106	81 - 118	
4-Bromofluorobenzene	460-00-4	MS	29.80	30	99.3	85 - 114	
4-Bromofluorobenzene	460-00-4	MSD	29.60	30	98.6	85 - 114	
Dibromofluoromethane	1868-53-7	MS	26.30	30	87.8	80 - 119	
Dibromofluoromethane	1868-53-7	MSD	27	30	89.9	80 - 119	
Toluene-d8	2037-26-5	MS	27.40	30	91.5	89 - 112	
Toluene-d8	2037-26-5	MSD	27.60	30	91.9	89 - 112	

Method Blank 3528440 (MB) Created on 07/12/2022 18:43 For QC Batch 863874

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
1,1,1-Trichloroethane	71-55-6	BLK	0.75U	ug/L	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	BLK	0.75U	ug/L	1.0	U
1,1,2-Trichloroethane	79-00-5	BLK	0.75U	ug/L	1.0	U
1,1-Dichloroethane	75-34-3	BLK	0.75U	ug/L	1.0	U
1,1-Dichloroethene	75-35-4	BLK	0.75U	ug/L	1.0	U
1,2,3-Trichlorobenzene	87-61-6	BLK	0.75U	ug/L	1.0	U
1,2,4-Trichlorobenzene	120-82-1	BLK	0.75U	ug/L	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	BLK	2.5U	ug/L	5.0	U
1,2-Dibromoethane	106-93-4	BLK	0.75U	ug/L	1.0	U
1,2-Dichlorobenzene	95-50-1	BLK	0.75U	ug/L	1.0	U
1,2-Dichloroethane	107-06-2	BLK	0.75U	ug/L	1.0	U
1,2-Dichloropropane	78-87-5	BLK	0.75U	ug/L	1.0	U

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
1,3-Dichlorobenzene	541-73-1	BLK	0.75U	ug/L	1.0	U
1,3-Dichloropropene, Total	542-75-6	BLK	1.5U	ug/L	2.0	U
1,4-Dichlorobenzene	106-46-7	BLK	0.75U	ug/L	1.0	U
2-Butanone	78-93-3	BLK	3.8U	ug/L	5.0	U
2-Hexanone	591-78-6	BLK	3.8U	ug/L	5.0	U
4-Methyl-2-Pentanone(MIBK)	108-10-1	BLK	3.8U	ug/L	5.0	U
Acetone	67-64-1	BLK	3.8U	ug/L	5.0	U
Benzene	71-43-2	BLK	0.75U	ug/L	1.0	U
Bromochloromethane	74-97-5	BLK	0.75U	ug/L	1.0	U
Bromodichloromethane	75-27-4	BLK	0.75U	ug/L	1.0	U
Bromoform	75-25-2	BLK	0.75U	ug/L	1.0	U
Bromomethane	74-83-9	BLK	0.75U	ug/L	1.0	U
Carbon Disulfide	75-15-0	BLK	0.75U	ug/L	1.0	U
Carbon Tetrachloride	56-23-5	BLK	0.75U	ug/L	1.0	U
Chlorobenzene	108-90-7	BLK	0.75U	ug/L	1.0	U
Chlorodibromomethane	124-48-1	BLK	0.75U	ug/L	1.0	U
Chloroethane	75-00-3	BLK	0.75U	ug/L	1.0	U
Chloroform	67-66-3	BLK	0.75U	ug/L	1.0	U
Chloromethane	74-87-3	BLK	0.75U	ug/L	1.0	U
cis-1,2-Dichloroethene	156-59-2	BLK	0.75U	ug/L	1.0	U
Cyclohexane	110-82-7	BLK	0.75U	ug/L	1.0	U
Dichlorodifluoromethane	75-71-8	BLK	0.75U	ug/L	1.0	U
Ethylbenzene	100-41-4	BLK	0.75U	ug/L	1.0	U
Freon 113	76-13-1	BLK	0.75U	ug/L	1.0	U
Iodomethane	74-88-4	BLK	0.75U	ug/L	1.0	U
Isopropylbenzene	98-82-8	BLK	0.75U	ug/L	1.0	U
Methyl acetate	79-20-9	BLK	0.75U	ug/L	1.0	U
Methyl cyclohexane	108-87-2	BLK	0.75U	ug/L	1.0	U
Methyl t-Butyl Ether	1634-04-4	BLK	0.75U	ug/L	1.0	U
Methylene Chloride	75-09-2	BLK	0.75U	ug/L	1.0	U
Styrene	100-42-5	BLK	0.75U	ug/L	1.0	U
Tetrachloroethene	127-18-4	BLK	0.75U	ug/L	1.0	U
Toluene	108-88-3	BLK	0.75U	ug/L	1.0	U
Total Xylenes	1330-20-7	BLK	2.3U	ug/L	3.0	U
trans-1,2-Dichloroethene	156-60-5	BLK	0.75U	ug/L	1.0	U
Trichloroethene	79-01-6	BLK	0.75U	ug/L	1.0	U
Trichlorofluoromethane	75-69-4	BLK	0.75U	ug/L	1.0	U
Vinyl Chloride	75-01-4	BLK	0.75U	ug/L	1.0	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	BLK	29.50	30	98.3	81 - 118	
4-Bromofluorobenzene	460-00-4	BLK	31.30	30	104	85 - 114	
Dibromofluoromethane	1868-53-7	BLK	25.80	30	86.1	80 - 119	
Toluene-d8	2037-26-5	BLK	28.70	30	95.7	89 - 112	

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

Lab Control Standard 3528441 (LCS) Created on 07/12/2022 18:43 For QC Batch 863874

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1-Trichloroethane	71-55-6	LCS	19		20	95.1	74 - 131		
1,1,2,2-Tetrachloroethane	79-34-5	LCS	20.20		20	101	71 - 121		
1,1,2-Trichloroethane	79-00-5	LCS	18.70		20	93.3	80 - 119		
1,1-Dichloroethane	75-34-3	LCS	19.80		20	99	77 - 125		
1,1-Dichloroethene	75-35-4	LCS	21.50		20	108	71 - 131		
1,2,3-Trichlorobenzene	87-61-6	LCS	18.40		20	92	69 - 129		
1,2,4-Trichlorobenzene	120-82-1	LCS	18.50		20	92.3	69 - 130		
1,2-Dibromo-3-chloropropane	96-12-8	LCS	16.20		20	81.2	62 - 128		
1,2-Dibromoethane	106-93-4	LCS	18.40		20	92.1	77 - 121		
1,2-Dichlorobenzene	95-50-1	LCS	18.90		20	94.3	80 - 119		
1,2-Dichloroethane	107-06-2	LCS	19.90		20	99.6	73 - 128		
1,2-Dichloropropane	78-87-5	LCS	20.10		20	101	78 - 122		
1,3-Dichlorobenzene	541-73-1	LCS	18.80		20	94	80 - 119		
1,3-Dichloropropene, Total	542-75-6	LCS	39		40	97.5	75 - 124		
1,4-Dichlorobenzene	106-46-7	LCS	18.20		20	90.8	79 - 118		
2-Butanone	78-93-3	LCS	75.90		100	75.9	56 - 143		
2-Hexanone	591-78-6	LCS	91.30		100	91.3	57 - 139		
4-Methyl-2-Pentanone(MIBK)	108-10-1	LCS	103		100	103	67 - 130		
Acetone	67-64-1	LCS	115		100	115	39 - 160		
Benzene	71-43-2	LCS	19.70		20	98.5	79 - 120		
Bromochloromethane	74-97-5	LCS	19.30		20	96.7	78 - 123		
Bromodichloromethane	75-27-4	LCS	19.30		20	96.4	79 - 125		
Bromoform	75-25-2	LCS	18.60		20	92.8	66 - 130		
Bromomethane	74-83-9	LCS	19.30		20	96.7	53 - 141		
Carbon Disulfide	75-15-0	LCS	22.80		20	114	64 - 133		
Carbon Tetrachloride	56-23-5	LCS	18.90		20	94.7	72 - 136		
Chlorobenzene	108-90-7	LCS	17.40		20	87.1	82 - 118		
Chlorodibromomethane	124-48-1	LCS	17.40		20	87.2	74 - 126		
Chloroethane	75-00-3	LCS	19.90		20	99.7	60 - 138		
Chloroform	67-66-3	LCS	19.10		20	95.6	79 - 124		
Chloromethane	74-87-3	LCS	22.50		20	112	50 - 139		
cis-1,2-Dichloroethene	156-59-2	LCS	20.70		20	104	78 - 123		
Cyclohexane	110-82-7	LCS	21		20	105	71 - 130		
Dichlorodifluoromethane	75-71-8	LCS	21		20	105	32 - 152		
Ethylbenzene	100-41-4	LCS	17.90		20	89.4	79 - 121		
Freon 113	76-13-1	LCS	20.70		20	104	70 - 136		
Iodomethane	74-88-4	LCS	18.70		20	93.6	69 - 131		
Isopropylbenzene	98-82-8	LCS	20		20	99.9	72 - 131		
Methyl acetate	79-20-9	LCS	17.20		20	85.8	56 - 136		
Methyl cyclohexane	108-87-2	LCS	18.90		20	94.6	72 - 132		
Methyl t-Butyl Ether	1634-04-4	LCS	20.10		20	101	71 - 124		
Methylene Chloride	75-09-2	LCS	20.20		20	101	74 - 124		
Styrene	100-42-5	LCS	21.10		20	106	78 - 123		
Tetrachloroethene	127-18-4	LCS	16.20		20	81.1	74 - 129		

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Toluene	108-88-3	LCS	18.60		20	92.9	80 - 121		
Total Xylenes	1330-20-7	LCS	55.30		60	92.1	79 - 121		
trans-1,2-Dichloroethene	156-60-5	LCS	19.70		20	98.6	75 - 124		
Trichloroethene	79-01-6	LCS	18.70		20	93.7	79 - 123		
Trichlorofluoromethane	75-69-4	LCS	18.90		20	94.5	65 - 141		
Vinyl Chloride	75-01-4	LCS	20.10		20	101	58 - 137		

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	LCS	30.70	30	102	81 - 118	
4-Bromofluorobenzene	460-00-4	LCS	30.20	30	101	85 - 114	
Dibromofluoromethane	1868-53-7	LCS	27.10	30	90.4	80 - 119	
Toluene-d8	2037-26-5	LCS	27.90	30	92.9	89 - 112	

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3250989029	MW13-4D-062922	N/A	N/A	N/A		SW846 8260C	863874
3250989030	PW13-1-062922	N/A	N/A	N/A		SW846 8260C	863874
3250989031	PW13-4D-062922	N/A	N/A	N/A		SW846 8260C	863874
3250989032	MW13-5D-062922	N/A	N/A	N/A		SW846 8260C	863874



3251222

Logged By: KSB
PM: SJB



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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

Analytical Results Report For **ARCADIS US Inc - Clifton Park, NY**

Project NFARS 30036646
Workorder 3272934
Report ID 209354 on 11/28/2022

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Nov 09, 2022.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Susan Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

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ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):
Andy Vitolins - Arcadis
Erika Denkenberger - Arcadis
Katherine Clubine - Arcadis
Corey Averill - Arcadis

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Susan Scherer

Susan Scherer *(ALS Digital Signature)*
Project Coordinator

Sample Summary

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collector	Collection Company
3272934001	RW5-4-20221107	Ground Water	11/07/2022 09:15	11/09/2022 09:00	CBC	Collected By Client
3272934002	RW5-2-20221107	Ground Water	11/07/2022 09:35	11/09/2022 09:00	CBC	Collected By Client
3272934003	MW5-6-20221107	Ground Water	11/07/2022 09:50	11/09/2022 09:00	CBC	Collected By Client
3272934004	MW5-1DA-20221107	Ground Water	11/07/2022 11:05	11/09/2022 09:00	CBC	Collected By Client
3272934005	RW5-1-20221107	Ground Water	11/07/2022 10:45	11/09/2022 09:00	CBC	Collected By Client
3272934006	Dup-01-20221107	Ground Water	11/07/2022 00:00	11/09/2022 09:00	CBC	Collected By Client
3272934009	MW1-1DA-20221107	Ground Water	11/07/2022 12:55	11/09/2022 09:00	CBC	Collected By Client
3272934010	SW3-3-20221107	Ground Water	11/07/2022 13:05	11/09/2022 09:00	CBC	Collected By Client
3272934011	SW3-15-20221107	Ground Water	11/07/2022 13:25	11/09/2022 09:00	CBC	Collected By Client
3272934012	SW3-2-20221107	Ground Water	11/07/2022 13:25	11/09/2022 09:00	CBC	Collected By Client
3272934013	SW99-10-20221108	Ground Water	11/08/2022 08:40	11/09/2022 09:00	CBC	Collected By Client
3272934014	SW10-7-20221108	Ground Water	11/08/2022 09:05	11/09/2022 09:00	CBC	Collected By Client
3272934015	SW10-8-20221108	Ground Water	11/08/2022 09:20	11/09/2022 09:00	CBC	Collected By Client
3272934016	SW10-5-20221108	Ground Water	11/08/2022 09:30	11/09/2022 09:00	CBC	Collected By Client
3272934017	MW10-1DA-20221108	Ground Water	11/08/2022 09:50	11/09/2022 09:00	CBC	Collected By Client
3272934018	PW10-2-20221108	Ground Water	11/08/2022 10:00	11/09/2022 09:00	CBC	Collected By Client
3272934019	MW10-10D-20221108	Ground Water	11/08/2022 10:10	11/09/2022 09:00	CBC	Collected By Client
3272934020	MW10-4D-20221108	Ground Water	11/08/2022 10:30	11/09/2022 09:00	CBC	Collected By Client
3272934021	MW10-4E-20221108	Ground Water	11/08/2022 10:40	11/09/2022 09:00	CBC	Collected By Client
3272934022	PW10-1-20221108	Ground Water	11/08/2022 10:50	11/09/2022 09:00	CBC	Collected By Client
3272934023	MW10-9D-20221108	Ground Water	11/08/2022 11:00	11/09/2022 09:00	CBC	Collected By Client
3272934024	MW10-3D-20221108	Ground Water	11/08/2022 11:10	11/09/2022 09:00	CBC	Collected By Client
3272934026	Trip Blank	Ground Water	11/08/2022 11:35	11/09/2022 09:00	CBC	Collected By Client
3272934027	MW15-3-20221108	Ground Water	11/08/2022 12:05	11/09/2022 09:00	CBC	Collected By Client

Reference

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136.
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND) above the MDL
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Practical Quantitation Limit for this Project
ND	Not Detected - indicates that the analyte was Not Detected
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits
#	Please reference the result in the Results Section for analyte-level flags.

Project Notations

Sample Notations

Lab ID	Sample ID

Result Notations

Notation Ref.	
1	The QC sample type MSD for method SW846 8260C was outside the control limits for the analyte Acetone. The RPD was reported as 20.7 and the upper control limit is 20.
2	The QC sample type MSD for method SW846 8260C was outside the control limits for the analyte Bromomethane. The RPD was reported as 23.5 and the upper control limit is 20.
3	The QC sample type MSD for method SW846 8260C was outside the control limits for the analyte Iodomethane. The RPD was reported as 29.8 and the upper control limit is 20.
4	The QC sample type MS for method SW846 8260C was outside the control limits for the analyte Iodomethane. The % Recovery was reported as 55.4 and the control limits were 69 to 131.
5	The QC sample type MSD for method SW846 8260C was outside the control limits for the analyte 1,2,3-Trichlorobenzene. The RPD was reported as 20.1 and the upper control limit is 20.
6	The surrogate 4-Bromofluorobenzene for method SW846 8260C was outside of control limits. The % Recovery was reported as 116 and the control limits were 85 to 114. This result was reported at a dilution of 1.

Detected Results Summary

Client Sample ID	RW5-4-20221107	Collected	11/07/2022 09:15
Lab Sample ID	3272934001	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
cis-1,2-Dichloroethene	1.0	ug/L	1.0	0.75	0.33	SW846 8260C	#
Toluene	1.5	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	0.35J	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	RW5-2-20221107	Collected	11/07/2022 09:35
Lab Sample ID	3272934002	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
cis-1,2-Dichloroethene	106	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	516	ug/L	5.0	3.8	1.7	SW846 8260C	#

Detected Results Summary

Client Sample ID	MW5-6-20221107	Collected	11/07/2022 09:50
Lab Sample ID	3272934003	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Chloroform	0.45J	ug/L	1.0	0.75	0.33	SW846 8260C	#
cis-1,2-Dichloroethene	2.4	ug/L	1.0	0.75	0.33	SW846 8260C	#
Toluene	3.1	ug/L	1.0	0.75	0.33	SW846 8260C	#
trans-1,2-Dichloroethene	0.73J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	0.70J	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	MW5-1DA-20221107	Collected	11/07/2022 11:05
Lab Sample ID	3272934004	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
1,2-Dichloroethane	1.6	ug/L	1.0	0.75	0.33	SW846 8260C	#
2-Butanone	3.3J	ug/L	5.0	3.8	1.6	SW846 8260C	#
Chloroethane	0.73J	ug/L	1.0	0.75	0.33	SW846 8260C	#
cis-1,2-Dichloroethene	2.0	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	RW5-1-20221107	Collected	11/07/2022 10:45
Lab Sample ID	3272934005	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Chloroethane	7.9	ug/L	1.0	0.75	0.33	SW846 8260C	#
Chloroform	0.45J	ug/L	1.0	0.75	0.33	SW846 8260C	#
cis-1,2-Dichloroethene	0.80J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Toluene	10.3	ug/L	1.0	0.75	0.33	SW846 8260C	#
trans-1,2-Dichloroethene	0.50J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	1.1	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	Dup-01-20221107	Collected	11/07/2022 00:00
Lab Sample ID	3272934006	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Carbon Disulfide	0.44J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Chloroethane	9.5	ug/L	1.0	0.75	0.33	SW846 8260C	#
cis-1,2-Dichloroethene	0.63J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Toluene	10.6	ug/L	1.0	0.75	0.33	SW846 8260C	#
trans-1,2-Dichloroethene	0.56J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	1.3	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	SW3-3-20221107	Collected	11/07/2022 13:05
Lab Sample ID	3272934010	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Chloroform	0.96J	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	SW3-15-20221107	Collected	11/07/2022 13:25
Lab Sample ID	3272934011	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Chloroform	0.79J	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	SW3-2-20221107	Collected	11/07/2022 13:25
Lab Sample ID	3272934012	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Bromomethane	0.70J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Chloroform	1.1	ug/L	1.0	0.75	0.33	SW846 8260C	#
Iodomethane	1.4	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	SW99-10-20221108	Collected	11/08/2022 08:40
Lab Sample ID	3272934013	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Bromomethane	0.59J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Chloroform	0.47J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Iodomethane	1.1	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	SW10-7-20221108	Collected	11/08/2022 09:05
Lab Sample ID	3272934014	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Chloroform	0.69J	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	SW10-8-20221108	Collected	11/08/2022 09:20
Lab Sample ID	3272934015	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Bromomethane	0.42J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Chloroform	0.79J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Iodomethane	0.54J	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	SW10-5-20221108	Collected	11/08/2022 09:30
Lab Sample ID	3272934016	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Bromomethane	0.45J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Iodomethane	0.78J	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	MW10-1DA-20221108	Collected	11/08/2022 09:50
Lab Sample ID	3272934017	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Benzene	3.2	ug/L	1.0	0.75	0.33	SW846 8260C	#
cis-1,2-Dichloroethene	3.2	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	10.8	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	PW10-2-20221108	Collected	11/08/2022 10:00
Lab Sample ID	3272934018	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Benzene	1.6	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	MW10-10D-20221108	Collected	11/08/2022 10:10
Lab Sample ID	3272934019	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
2-Hexanone	819	ug/L	100	75.0	32.0	SW846 8260C	#
Chloroform	29.2	ug/L	20.0	15.0	6.6	SW846 8260C	#
cis-1,2-Dichloroethene	534	ug/L	20.0	15.0	6.6	SW846 8260C	#
Toluene	16.5J	ug/L	20.0	15.0	6.6	SW846 8260C	#
Trichloroethene	24.8	ug/L	20.0	15.0	6.6	SW846 8260C	#
Vinyl Chloride	42.2	ug/L	20.0	15.0	6.6	SW846 8260C	#

Detected Results Summary

Client Sample ID	MW10-4D-20221108	Collected	11/08/2022 10:30
Lab Sample ID	3272934020	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Benzene	1.3	ug/L	1.0	0.75	0.33	SW846 8260C	#
cis-1,2-Dichloroethene	3.7	ug/L	1.0	0.75	0.33	SW846 8260C	#
Iodomethane	0.49J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	4.3	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	MW10-4E-20221108	Collected	11/08/2022 10:40
Lab Sample ID	3272934021	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
cis-1,2-Dichloroethene	7.2	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	0.55J	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	PW10-1-20221108	Collected	11/08/2022 10:50
Lab Sample ID	3272934022	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Chloroform	0.46J	ug/L	1.0	0.75	0.33	SW846 8260C	#
cis-1,2-Dichloroethene	1.1	ug/L	1.0	0.75	0.33	SW846 8260C	#
Iodomethane	0.71J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	1.8	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	MW10-9D-20221108	Collected	11/08/2022 11:00
Lab Sample ID	3272934023	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
cis-1,2-Dichloroethene	6.6	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	16.6	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	MW10-3D-20221108	Collected	11/08/2022 11:10
Lab Sample ID	3272934024	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Bromomethane	0.47J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Iodomethane	0.96J	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	Trip Blank	Collected	11/08/2022 11:35
Lab Sample ID	3272934026	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Chloroform	1.2	ug/L	1.0	0.75	0.33	SW846 8260C	#
Iodomethane	0.59J	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	MW15-3-20221108	Collected	11/08/2022 12:05
Lab Sample ID	3272934027	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Chloroform	0.96J	ug/L	1.0	0.75	0.33	SW846 8260C	#
cis-1,2-Dichloroethene	11.4	ug/L	1.0	0.75	0.33	SW846 8260C	#
Iodomethane	0.64J	ug/L	1.0	0.75	0.33	SW846 8260C	#
trans-1,2-Dichloroethene	5.2	ug/L	1.0	0.75	0.33	SW846 8260C	#
Trichloroethene	7.1	ug/L	1.0	0.75	0.33	SW846 8260C	#

Results

Client Sample ID	RW5-4-20221107	Collected	11/07/2022 09:15
Lab Sample ID	3272934001	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/23/2022 02:39	PDK	B
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/23/2022 02:39	PDK	B
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/23/2022 02:39	PDK	B
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/23/2022 02:39	PDK	B
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/23/2022 02:39	PDK	B
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/23/2022 02:39	PDK	B
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
cis-1,2-Dichloroethene	1.0		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Toluene	1.5		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/23/2022 02:39	PDK	B
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B

Results

Client Sample ID	RW5-4-20221107	Collected	11/07/2022 09:15
Lab Sample ID	3272934001	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B
Vinyl Chloride	0.35J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 02:39	PDK	B

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	108%	81 – 118	11/23/2022 02:39	
4-Bromofluorobenzene	460-00-4	106%	85 – 114	11/23/2022 02:39	
Dibromofluoromethane	1868-53-7	105%	80 – 119	11/23/2022 02:39	
Toluene-d8	2037-26-5	104%	89 – 112	11/23/2022 02:39	

Results

Client Sample ID	RW5-2-20221107	Collected	11/07/2022 09:35
Lab Sample ID	3272934002	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/19/2022 02:59	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/19/2022 02:59	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 02:59	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 02:59	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 02:59	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 02:59	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
cis-1,2-Dichloroethene	106		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/19/2022 02:59	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A

Results

Client Sample ID	RW5-2-20221107	Collected	11/07/2022 09:35
Lab Sample ID	3272934002	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:59	PDK	A
Vinyl Chloride	516		ug/L	5.0	3.8	1.7	SW846 8260C	5	11/23/2022 03:02	PDK	B

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	107%	81 – 118	11/19/2022 02:59	
1,2-Dichloroethane-d4	17060-07-0	109%	81 – 118	11/23/2022 03:02	
4-Bromofluorobenzene	460-00-4	107%	85 – 114	11/19/2022 02:59	
4-Bromofluorobenzene	460-00-4	111%	85 – 114	11/23/2022 03:02	
Dibromofluoromethane	1868-53-7	103%	80 – 119	11/19/2022 02:59	
Dibromofluoromethane	1868-53-7	106%	80 – 119	11/23/2022 03:02	
Toluene-d8	2037-26-5	105%	89 – 112	11/19/2022 02:59	
Toluene-d8	2037-26-5	107%	89 – 112	11/23/2022 03:02	

Results

Client Sample ID	MW5-6-20221107	Collected	11/07/2022 09:50
Lab Sample ID	3272934003	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/18/2022 23:58	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/18/2022 23:58	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/18/2022 23:58	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/18/2022 23:58	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/18/2022 23:58	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/18/2022 23:58	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Chloroform	0.45J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
cis-1,2-Dichloroethene	2.4		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Toluene	3.1		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/18/2022 23:58	PDK	A
trans-1,2-Dichloroethene	0.73J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A

Results

Client Sample ID	MW5-6-20221107	Collected	11/07/2022 09:50
Lab Sample ID	3272934003	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A
Vinyl Chloride	0.70J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/18/2022 23:58	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	109%	81 – 118	11/18/2022 23:58	
4-Bromofluorobenzene	460-00-4	112%	85 – 114	11/18/2022 23:58	
Dibromofluoromethane	1868-53-7	105%	80 – 119	11/18/2022 23:58	
Toluene-d8	2037-26-5	107%	89 – 112	11/18/2022 23:58	

Results

Client Sample ID	MW5-1DA-20221107	Collected	11/07/2022 11:05
Lab Sample ID	3272934004	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/19/2022 00:21	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
1,2-Dichloroethane	1.6		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/19/2022 00:21	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
2-Butanone	3.3J	J	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 00:21	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 00:21	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 00:21	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 00:21	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Chloroethane	0.73J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
cis-1,2-Dichloroethene	2.0		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/19/2022 00:21	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A

Results

Client Sample ID	MW5-1DA-20221107	Collected	11/07/2022 11:05
Lab Sample ID	3272934004	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:21	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	108%	81 – 118	11/19/2022 00:21	
4-Bromofluorobenzene	460-00-4	109%	85 – 114	11/19/2022 00:21	
Dibromofluoromethane	1868-53-7	102%	80 – 119	11/19/2022 00:21	
Toluene-d8	2037-26-5	106%	89 – 112	11/19/2022 00:21	

Results

Client Sample ID	RW5-1-20221107	Collected	11/07/2022 10:45
Lab Sample ID	3272934005	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/19/2022 03:21	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/19/2022 03:21	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 03:21	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 03:21	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 03:21	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 03:21	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Chloroethane	7.9		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Chloroform	0.45J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
cis-1,2-Dichloroethene	0.80J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Toluene	10.3		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/19/2022 03:21	PDK	A
trans-1,2-Dichloroethene	0.50J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A

Results

Client Sample ID	RW5-1-20221107	Collected	11/07/2022 10:45
Lab Sample ID	3272934005	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A
Vinyl Chloride	1.1		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 03:21	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	108%	81 – 118	11/19/2022 03:21	
4-Bromofluorobenzene	460-00-4	108%	85 – 114	11/19/2022 03:21	
Dibromofluoromethane	1868-53-7	105%	80 – 119	11/19/2022 03:21	
Toluene-d8	2037-26-5	105%	89 – 112	11/19/2022 03:21	

Results

Client Sample ID	Dup-01-20221107	Collected	11/07/2022 00:00
Lab Sample ID	3272934006	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/23/2022 08:21	PDK	B
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/23/2022 08:21	PDK	B
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/23/2022 08:21	PDK	B
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/23/2022 08:21	PDK	B
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/23/2022 08:21	PDK	B
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/23/2022 08:21	PDK	B
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Carbon Disulfide	0.44J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Chloroethane	9.5		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
cis-1,2-Dichloroethene	0.63J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Toluene	10.6		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/23/2022 08:21	PDK	B
trans-1,2-Dichloroethene	0.56J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B

Results

Client Sample ID	Dup-01-20221107	Collected	11/07/2022 00:00
Lab Sample ID	3272934006	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B
Vinyl Chloride	1.3		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/23/2022 08:21	PDK	B

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	111%	81 – 118	11/23/2022 08:21	
4-Bromofluorobenzene	460-00-4	106%	85 – 114	11/23/2022 08:21	
Dibromofluoromethane	1868-53-7	106%	80 – 119	11/23/2022 08:21	
Toluene-d8	2037-26-5	103%	89 – 112	11/23/2022 08:21	

Results

Client Sample ID	MW1-1DA-20221107	Collected	11/07/2022 12:55
Lab Sample ID	3272934009	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/19/2022 00:43	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/19/2022 00:43	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 00:43	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 00:43	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 00:43	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 00:43	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/19/2022 00:43	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A

Results

Client Sample ID	MW1-1DA-20221107	Collected	11/07/2022 12:55
Lab Sample ID	3272934009	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 00:43	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	108%	81 – 118	11/19/2022 00:43	
4-Bromofluorobenzene	460-00-4	111%	85 – 114	11/19/2022 00:43	
Dibromofluoromethane	1868-53-7	103%	80 – 119	11/19/2022 00:43	
Toluene-d8	2037-26-5	108%	89 – 112	11/19/2022 00:43	

Results

Client Sample ID	SW3-3-20221107	Collected	11/07/2022 13:05
Lab Sample ID	3272934010	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/19/2022 01:06	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/19/2022 01:06	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 01:06	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 01:06	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 01:06	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 01:06	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Chloroform	0.96J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/19/2022 01:06	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A

Results

Client Sample ID	SW3-3-20221107	Collected	11/07/2022 13:05
Lab Sample ID	3272934010	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:06	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	109%	81 – 118	11/19/2022 01:06	
4-Bromofluorobenzene	460-00-4	110%	85 – 114	11/19/2022 01:06	
Dibromofluoromethane	1868-53-7	106%	80 – 119	11/19/2022 01:06	
Toluene-d8	2037-26-5	107%	89 – 112	11/19/2022 01:06	

Results

Client Sample ID	SW3-15-20221107	Collected	11/07/2022 13:25
Lab Sample ID	3272934011	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/19/2022 01:28	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/19/2022 01:28	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 01:28	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 01:28	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 01:28	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 01:28	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Chloroform	0.79J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/19/2022 01:28	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A

Results

Client Sample ID	SW3-15-20221107	Collected	11/07/2022 13:25
Lab Sample ID	3272934011	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:28	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	108%	81 – 118	11/19/2022 01:28	
4-Bromofluorobenzene	460-00-4	104%	85 – 114	11/19/2022 01:28	
Dibromofluoromethane	1868-53-7	103%	80 – 119	11/19/2022 01:28	
Toluene-d8	2037-26-5	104%	89 – 112	11/19/2022 01:28	

Results

Client Sample ID	SW3-2-20221107	Collected	11/07/2022 13:25
Lab Sample ID	3272934012	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/19/2022 01:51	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/19/2022 01:51	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 01:51	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 01:51	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 01:51	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 01:51	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Bromomethane	0.70J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Chloroform	1.1		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Iodomethane	1.4		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/19/2022 01:51	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A

Results

Client Sample ID	SW3-2-20221107	Collected	11/07/2022 13:25
Lab Sample ID	3272934012	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 01:51	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	110%	81 – 118	11/19/2022 01:51	
4-Bromofluorobenzene	460-00-4	109%	85 – 114	11/19/2022 01:51	
Dibromofluoromethane	1868-53-7	105%	80 – 119	11/19/2022 01:51	
Toluene-d8	2037-26-5	107%	89 – 112	11/19/2022 01:51	

Results

Client Sample ID	SW99-10-20221108	Collected	11/08/2022 08:40
Lab Sample ID	3272934013	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/19/2022 02:14	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/19/2022 02:14	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 02:14	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 02:14	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 02:14	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 02:14	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Bromomethane	0.59J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Chloroform	0.47J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Iodomethane	1.1		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/19/2022 02:14	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A

Results

Client Sample ID	SW99-10-20221108	Collected	11/08/2022 08:40
Lab Sample ID	3272934013	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:14	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	107%	81 – 118	11/19/2022 02:14	
4-Bromofluorobenzene	460-00-4	108%	85 – 114	11/19/2022 02:14	
Dibromofluoromethane	1868-53-7	103%	80 – 119	11/19/2022 02:14	
Toluene-d8	2037-26-5	105%	89 – 112	11/19/2022 02:14	

Results

Client Sample ID	SW10-7-20221108	Collected	11/08/2022 09:05
Lab Sample ID	3272934014	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/19/2022 02:36	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/19/2022 02:36	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 02:36	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 02:36	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 02:36	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 02:36	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Chloroform	0.69J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/19/2022 02:36	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A

Results

Client Sample ID	SW10-7-20221108	Collected	11/08/2022 09:05
Lab Sample ID	3272934014	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 02:36	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	110%	81 – 118	11/19/2022 02:36	
4-Bromofluorobenzene	460-00-4	109%	85 – 114	11/19/2022 02:36	
Dibromofluoromethane	1868-53-7	105%	80 – 119	11/19/2022 02:36	
Toluene-d8	2037-26-5	104%	89 – 112	11/19/2022 02:36	

Results

Client Sample ID	SW10-8-20221108	Collected	11/08/2022 09:20
Lab Sample ID	3272934015	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/20/2022 01:21	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/20/2022 01:21	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 01:21	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 01:21	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 01:21	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 01:21	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Bromomethane	0.42J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Chloroform	0.79J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Iodomethane	0.54J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/20/2022 01:21	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A

Results

Client Sample ID	SW10-8-20221108	Collected	11/08/2022 09:20
Lab Sample ID	3272934015	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:21	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	109%	81 – 118	11/20/2022 01:21	
4-Bromofluorobenzene	460-00-4	108%	85 – 114	11/20/2022 01:21	
Dibromofluoromethane	1868-53-7	106%	80 – 119	11/20/2022 01:21	
Toluene-d8	2037-26-5	107%	89 – 112	11/20/2022 01:21	

Results

Client Sample ID	SW10-5-20221108	Collected	11/08/2022 09:30
Lab Sample ID	3272934016	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
1,2,3-Trichlorobenzene	0.75U	U,5	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/20/2022 01:43	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/20/2022 01:43	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 01:43	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 01:43	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 01:43	PDK	A
Acetone	3.8U	U,1	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 01:43	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Bromomethane	0.45J	J,2	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Iodomethane	0.78J	J,3,4	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/20/2022 01:43	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A

Results

Client Sample ID	SW10-5-20221108	Collected	11/08/2022 09:30
Lab Sample ID	3272934016	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 01:43	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	110%	81 – 118	11/20/2022 01:43	
4-Bromofluorobenzene	460-00-4	110%	85 – 114	11/20/2022 01:43	
Dibromofluoromethane	1868-53-7	107%	80 – 119	11/20/2022 01:43	
Toluene-d8	2037-26-5	106%	89 – 112	11/20/2022 01:43	

Results

Client Sample ID	MW10-1DA-20221108	Collected	11/08/2022 09:50
Lab Sample ID	3272934017	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/20/2022 02:06	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/20/2022 02:06	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 02:06	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 02:06	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 02:06	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 02:06	PDK	A
Benzene	3.2		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
cis-1,2-Dichloroethene	3.2		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/20/2022 02:06	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A

Results

Client Sample ID	MW10-1DA-20221108	Collected	11/08/2022 09:50
Lab Sample ID	3272934017	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A
Vinyl Chloride	10.8		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:06	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	107%	81 – 118	11/20/2022 02:06	
4-Bromofluorobenzene	460-00-4	108%	85 – 114	11/20/2022 02:06	
Dibromofluoromethane	1868-53-7	105%	80 – 119	11/20/2022 02:06	
Toluene-d8	2037-26-5	105%	89 – 112	11/20/2022 02:06	

Results

Client Sample ID	PW10-2-20221108	Collected	11/08/2022 10:00
Lab Sample ID	3272934018	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/20/2022 02:29	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/20/2022 02:29	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 02:29	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 02:29	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 02:29	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 02:29	PDK	A
Benzene	1.6		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/20/2022 02:29	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A

Results

Client Sample ID	PW10-2-20221108	Collected	11/08/2022 10:00
Lab Sample ID	3272934018	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:29	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	109%	81 – 118	11/20/2022 02:29	
4-Bromofluorobenzene	460-00-4	107%	85 – 114	11/20/2022 02:29	
Dibromofluoromethane	1868-53-7	104%	80 – 119	11/20/2022 02:29	
Toluene-d8	2037-26-5	104%	89 – 112	11/20/2022 02:29	

Results

Client Sample ID	MW10-10D-20221108	Collected	11/08/2022 10:10
Lab Sample ID	3272934019	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
1,1,2,2-Tetrachloroethane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
1,1,2-Trichloroethane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
1,1-Dichloroethane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
1,1-Dichloroethene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
1,2,3-Trichlorobenzene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
1,2,4-Trichlorobenzene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
1,2-Dibromo-3-chloropropane	50.0U	U	ug/L	100	50.0	32.0	SW846 8260C	20	11/21/2022 15:59	TMP	A
1,2-Dibromoethane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
1,2-Dichlorobenzene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
1,2-Dichloroethane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
1,2-Dichloropropane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
1,3-Dichlorobenzene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
1,3-Dichloropropene, Total	30.0U	U	ug/L	40.0	30.0	13.2	SW846 8260C	20	11/21/2022 15:59	TMP	A
1,4-Dichlorobenzene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
2-Butanone	75.0U	U	ug/L	100	75.0	32.0	SW846 8260C	20	11/21/2022 15:59	TMP	A
2-Hexanone	819		ug/L	100	75.0	32.0	SW846 8260C	20	11/21/2022 15:59	TMP	A
4-Methyl-2-Pentanone(MIBK)	75.0U	U	ug/L	100	75.0	32.0	SW846 8260C	20	11/21/2022 15:59	TMP	A
Acetone	75.0U	U	ug/L	100	75.0	32.0	SW846 8260C	20	11/21/2022 15:59	TMP	A
Benzene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Bromochloromethane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Bromodichloromethane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Bromoform	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Bromomethane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Carbon Disulfide	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Carbon Tetrachloride	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Chlorobenzene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Chlorodibromomethane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Chloroethane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Chloroform	29.2		ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Chloromethane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
cis-1,2-Dichloroethene	534		ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Cyclohexane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Dichlorodifluoromethane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Ethylbenzene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Freon 113	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Iodomethane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Isopropylbenzene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Methyl acetate	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Methyl cyclohexane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Methyl t-Butyl Ether	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Methylene Chloride	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Styrene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Tetrachloroethene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Toluene	16.5J	J	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Total Xylenes	45.0U	U	ug/L	60.0	45.0	20.0	SW846 8260C	20	11/21/2022 15:59	TMP	A
trans-1,2-Dichloroethene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A

Results

Client Sample ID	MW10-10D-20221108	Collected	11/08/2022 10:10
Lab Sample ID	3272934019	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	24.8		ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Trichlorofluoromethane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A
Vinyl Chloride	42.2		ug/L	20.0	15.0	6.6	SW846 8260C	20	11/21/2022 15:59	TMP	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	105%	81 – 118	11/21/2022 15:59	
4-Bromofluorobenzene	460-00-4	114%	85 – 114	11/21/2022 15:59	
Dibromofluoromethane	1868-53-7	102%	80 – 119	11/21/2022 15:59	
Toluene-d8	2037-26-5	105%	89 – 112	11/21/2022 15:59	

Results

Client Sample ID	MW10-4D-20221108	Collected	11/08/2022 10:30
Lab Sample ID	3272934020	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/20/2022 02:51	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/20/2022 02:51	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 02:51	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 02:51	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 02:51	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 02:51	PDK	A
Benzene	1.3		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
cis-1,2-Dichloroethene	3.7		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Iodomethane	0.49J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/20/2022 02:51	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A

Results

Client Sample ID	MW10-4D-20221108	Collected	11/08/2022 10:30
Lab Sample ID	3272934020	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A
Vinyl Chloride	4.3		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 02:51	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	107%	81 – 118	11/20/2022 02:51	
4-Bromofluorobenzene	460-00-4	106%	85 – 114	11/20/2022 02:51	
Dibromofluoromethane	1868-53-7	102%	80 – 119	11/20/2022 02:51	
Toluene-d8	2037-26-5	106%	89 – 112	11/20/2022 02:51	

Results

Client Sample ID	MW10-4E-20221108	Collected	11/08/2022 10:40
Lab Sample ID	3272934021	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/20/2022 03:14	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/20/2022 03:14	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 03:14	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 03:14	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 03:14	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 03:14	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
cis-1,2-Dichloroethene	7.2		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/20/2022 03:14	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A

Results

Client Sample ID	MW10-4E-20221108	Collected	11/08/2022 10:40
Lab Sample ID	3272934021	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A
Vinyl Chloride	0.55J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:14	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	106%	81 – 118	11/20/2022 03:14	
4-Bromofluorobenzene	460-00-4	108%	85 – 114	11/20/2022 03:14	
Dibromofluoromethane	1868-53-7	103%	80 – 119	11/20/2022 03:14	
Toluene-d8	2037-26-5	106%	89 – 112	11/20/2022 03:14	

Results

Client Sample ID	PW10-1-20221108	Collected	11/08/2022 10:50
Lab Sample ID	3272934022	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/20/2022 03:37	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/20/2022 03:37	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 03:37	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 03:37	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 03:37	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 03:37	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Chloroform	0.46J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
cis-1,2-Dichloroethene	1.1		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Iodomethane	0.71J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/20/2022 03:37	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A

Results

Client Sample ID	PW10-1-20221108	Collected	11/08/2022 10:50
Lab Sample ID	3272934022	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A
Vinyl Chloride	1.8		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 03:37	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	109%	81 – 118	11/20/2022 03:37	
4-Bromofluorobenzene	460-00-4	109%	85 – 114	11/20/2022 03:37	
Dibromofluoromethane	1868-53-7	106%	80 – 119	11/20/2022 03:37	
Toluene-d8	2037-26-5	107%	89 – 112	11/20/2022 03:37	

Results

Client Sample ID	MW10-9D-20221108	Collected	11/08/2022 11:00
Lab Sample ID	3272934023	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/20/2022 04:00	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/20/2022 04:00	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 04:00	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 04:00	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 04:00	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 04:00	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
cis-1,2-Dichloroethene	6.6		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Iodomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/20/2022 04:00	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A

Results

Client Sample ID	MW10-9D-20221108	Collected	11/08/2022 11:00
Lab Sample ID	3272934023	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A
Vinyl Chloride	16.6		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:00	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	109%	81 – 118	11/20/2022 04:00	
4-Bromofluorobenzene	460-00-4	108%	85 – 114	11/20/2022 04:00	
Dibromofluoromethane	1868-53-7	106%	80 – 119	11/20/2022 04:00	
Toluene-d8	2037-26-5	108%	89 – 112	11/20/2022 04:00	

Results

Client Sample ID	MW10-3D-20221108	Collected	11/08/2022 11:10
Lab Sample ID	3272934024	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/20/2022 04:22	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/20/2022 04:22	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 04:22	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 04:22	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 04:22	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 04:22	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Bromomethane	0.47J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Iodomethane	0.96J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/20/2022 04:22	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A

Results

Client Sample ID	MW10-3D-20221108	Collected	11/08/2022 11:10
Lab Sample ID	3272934024	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:22	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	107%	81 – 118	11/20/2022 04:22	
4-Bromofluorobenzene	460-00-4	107%	85 – 114	11/20/2022 04:22	
Dibromofluoromethane	1868-53-7	104%	80 – 119	11/20/2022 04:22	
Toluene-d8	2037-26-5	104%	89 – 112	11/20/2022 04:22	

Results

Client Sample ID	Trip Blank	Collected	11/08/2022 11:35
Lab Sample ID	3272934026	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/19/2022 23:27	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/19/2022 23:27	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 23:27	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 23:27	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 23:27	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 23:27	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Chloroform	1.2		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
cis-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Iodomethane	0.59J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/19/2022 23:27	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A

Results

Client Sample ID	Trip Blank	Collected	11/08/2022 11:35
Lab Sample ID	3272934026	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:27	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	104%	81 – 118	11/19/2022 23:27	
4-Bromofluorobenzene	460-00-4	116*%	85 – 114	11/19/2022 23:27	6
Dibromofluoromethane	1868-53-7	104%	80 – 119	11/19/2022 23:27	
Toluene-d8	2037-26-5	108%	89 – 112	11/19/2022 23:27	

Results

Client Sample ID	MW15-3-20221108	Collected	11/08/2022 12:05
Lab Sample ID	3272934027	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/20/2022 04:45	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/20/2022 04:45	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 04:45	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 04:45	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 04:45	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 04:45	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Chloroform	0.96J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
cis-1,2-Dichloroethene	11.4		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Iodomethane	0.64J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/20/2022 04:45	PDK	A
trans-1,2-Dichloroethene	5.2		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A

Results

Client Sample ID	MW15-3-20221108	Collected	11/08/2022 12:05
Lab Sample ID	3272934027	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	7.1		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 04:45	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	109%	81 – 118	11/20/2022 04:45	
4-Bromofluorobenzene	460-00-4	107%	85 – 114	11/20/2022 04:45	
Dibromofluoromethane	1868-53-7	106%	80 – 119	11/20/2022 04:45	
Toluene-d8	2037-26-5	107%	89 – 112	11/20/2022 04:45	

Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3272934001	RW5-4-20221107	SW846 8260C	N/A	
3272934002	RW5-2-20221107	SW846 8260C	N/A	
		SW846 8260C	N/A	
3272934003	MW5-6-20221107	SW846 8260C	N/A	
3272934004	MW5-1DA-20221107	SW846 8260C	N/A	
3272934005	RW5-1-20221107	SW846 8260C	N/A	
3272934006	Dup-01-20221107	SW846 8260C	N/A	
3272934009	MW1-1DA-20221107	SW846 8260C	N/A	
3272934010	SW3-3-20221107	SW846 8260C	N/A	
3272934011	SW3-15-20221107	SW846 8260C	N/A	
3272934012	SW3-2-20221107	SW846 8260C	N/A	
3272934013	SW99-10-20221108	SW846 8260C	N/A	
3272934014	SW10-7-20221108	SW846 8260C	N/A	
3272934015	SW10-8-20221108	SW846 8260C	N/A	
3272934016	SW10-5-20221108	SW846 8260C	N/A	
3272934017	MW10-1DA-20221108	SW846 8260C	N/A	
3272934018	PW10-2-20221108	SW846 8260C	N/A	
3272934019	MW10-10D-20221108	SW846 8260C	N/A	
3272934020	MW10-4D-20221108	SW846 8260C	N/A	
3272934021	MW10-4E-20221108	SW846 8260C	N/A	
3272934022	PW10-1-20221108	SW846 8260C	N/A	
3272934023	MW10-9D-20221108	SW846 8260C	N/A	
3272934024	MW10-3D-20221108	SW846 8260C	N/A	
3272934026	Trip Blank	SW846 8260C	N/A	
3272934027	MW15-3-20221108	SW846 8260C	N/A	

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS

QC Batch

QC Batch	911074	Prep Method	N/A
Date	N/A	Analysis Method	SW846 8260C
Tech.			

Associated Samples

3272934002	3272934003	3272934004	3272934005
3272934009	3272934010	3272934011	3272934012
3272934013	3272934014		

Method Blank 3589121 (MB) Created on 11/18/2022 22:07 For QC Batch 911074

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
1,1,1-Trichloroethane	71-55-6	BLK	0.75U	ug/L	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	BLK	0.75U	ug/L	1.0	U
1,1,2-Trichloroethane	79-00-5	BLK	0.75U	ug/L	1.0	U
1,1-Dichloroethane	75-34-3	BLK	0.75U	ug/L	1.0	U
1,1-Dichloroethene	75-35-4	BLK	0.75U	ug/L	1.0	U
1,2,3-Trichlorobenzene	87-61-6	BLK	0.75U	ug/L	1.0	U
1,2,4-Trichlorobenzene	120-82-1	BLK	0.75U	ug/L	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	BLK	2.5U	ug/L	5.0	U
1,2-Dibromoethane	106-93-4	BLK	0.75U	ug/L	1.0	U
1,2-Dichlorobenzene	95-50-1	BLK	0.75U	ug/L	1.0	U
1,2-Dichloroethane	107-06-2	BLK	0.75U	ug/L	1.0	U
1,2-Dichloropropane	78-87-5	BLK	0.75U	ug/L	1.0	U
1,3-Dichlorobenzene	541-73-1	BLK	0.75U	ug/L	1.0	U
1,3-Dichloropropene, Total	542-75-6	BLK	1.5U	ug/L	2.0	U
1,4-Dichlorobenzene	106-46-7	BLK	0.75U	ug/L	1.0	U
2-Butanone	78-93-3	BLK	3.8U	ug/L	5.0	U
2-Hexanone	591-78-6	BLK	3.8U	ug/L	5.0	U
4-Methyl-2-Pentanone(MIBK)	108-10-1	BLK	3.8U	ug/L	5.0	U
Acetone	67-64-1	BLK	3.8U	ug/L	5.0	U
Benzene	71-43-2	BLK	0.75U	ug/L	1.0	U
Bromochloromethane	74-97-5	BLK	0.75U	ug/L	1.0	U
Bromodichloromethane	75-27-4	BLK	0.75U	ug/L	1.0	U
Bromoform	75-25-2	BLK	0.75U	ug/L	1.0	U
Bromomethane	74-83-9	BLK	0.75U	ug/L	1.0	U
Carbon Disulfide	75-15-0	BLK	0.75U	ug/L	1.0	U
Carbon Tetrachloride	56-23-5	BLK	0.75U	ug/L	1.0	U
Chlorobenzene	108-90-7	BLK	0.75U	ug/L	1.0	U
Chlorodibromomethane	124-48-1	BLK	0.75U	ug/L	1.0	U
Chloroethane	75-00-3	BLK	0.75U	ug/L	1.0	U
Chloroform	67-66-3	BLK	0.75U	ug/L	1.0	U
Chloromethane	74-87-3	BLK	0.75U	ug/L	1.0	U
cis-1,2-Dichloroethene	156-59-2	BLK	0.75U	ug/L	1.0	U
Cyclohexane	110-82-7	BLK	0.75U	ug/L	1.0	U
Dichlorodifluoromethane	75-71-8	BLK	0.75U	ug/L	1.0	U
Ethylbenzene	100-41-4	BLK	0.75U	ug/L	1.0	U
Freon 113	76-13-1	BLK	0.75U	ug/L	1.0	U
Iodomethane	74-88-4	BLK	0.75U	ug/L	1.0	U
Isopropylbenzene	98-82-8	BLK	0.75U	ug/L	1.0	U
Methyl acetate	79-20-9	BLK	0.75U	ug/L	1.0	U

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
Methyl cyclohexane	108-87-2	BLK	0.75U	ug/L	1.0	U
Methyl t-Butyl Ether	1634-04-4	BLK	0.75U	ug/L	1.0	U
Methylene Chloride	75-09-2	BLK	0.75U	ug/L	1.0	U
Styrene	100-42-5	BLK	0.75U	ug/L	1.0	U
Tetrachloroethene	127-18-4	BLK	0.75U	ug/L	1.0	U
Toluene	108-88-3	BLK	0.75U	ug/L	1.0	U
Total Xylenes	1330-20-7	BLK	2.3U	ug/L	3.0	U
trans-1,2-Dichloroethene	156-60-5	BLK	0.75U	ug/L	1.0	U
Trichloroethene	79-01-6	BLK	0.75U	ug/L	1.0	U
Trichlorofluoromethane	75-69-4	BLK	0.75U	ug/L	1.0	U
Vinyl Chloride	75-01-4	BLK	0.75U	ug/L	1.0	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	BLK	31.60	30	105	81 - 118	
4-Bromofluorobenzene	460-00-4	BLK	33.40	30	111	85 - 114	
Dibromofluoromethane	1868-53-7	BLK	30.60	30	102	80 - 119	
Toluene-d8	2037-26-5	BLK	31.40	30	105	89 - 112	

Lab Control Standard 3589122 (LCS) Created on 11/18/2022 22:07 For QC Batch 911074

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1-Trichloroethane	71-55-6	LCS	21.50		20	107	74 - 131		
1,1,2,2-Tetrachloroethane	79-34-5	LCS	19.50		20	97.6	71 - 121		
1,1,2-Trichloroethane	79-00-5	LCS	19.90		20	99.6	80 - 119		
1,1-Dichloroethane	75-34-3	LCS	21.30		20	107	77 - 125		
1,1-Dichloroethene	75-35-4	LCS	21.60		20	108	71 - 131		
1,2,3-Trichlorobenzene	87-61-6	LCS	19.40		20	97	69 - 129		
1,2,4-Trichlorobenzene	120-82-1	LCS	21.40		20	107	69 - 130		
1,2-Dibromo-3-chloropropane	96-12-8	LCS	15.90		20	79.7	62 - 128		
1,2-Dibromoethane	106-93-4	LCS	20		20	100	77 - 121		
1,2-Dichlorobenzene	95-50-1	LCS	20.80		20	104	80 - 119		
1,2-Dichloroethane	107-06-2	LCS	21		20	105	73 - 128		
1,2-Dichloropropane	78-87-5	LCS	21.10		20	105	78 - 122		
1,3-Dichlorobenzene	541-73-1	LCS	21.40		20	107	80 - 119		
1,3-Dichloropropene, Total	542-75-6	LCS	42.10		40	105	75 - 124		
1,4-Dichlorobenzene	106-46-7	LCS	21.40		20	107	79 - 118		
2-Butanone	78-93-3	LCS	85.60		100	85.6	56 - 143		
2-Hexanone	591-78-6	LCS	86.90		100	86.9	57 - 139		
4-Methyl-2-Pentanone(MIBK)	108-10-1	LCS	93.70		100	93.7	67 - 130		
Acetone	67-64-1	LCS	113		100	113	39 - 160		
Benzene	71-43-2	LCS	22.30		20	112	79 - 120		
Bromochloromethane	74-97-5	LCS	21.70		20	108	78 - 123		

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Bromodichloromethane	75-27-4	LCS	21.20		20	106	79 - 125		
Bromoform	75-25-2	LCS	19.90		20	99.7	66 - 130		
Bromomethane	74-83-9	LCS	26.80		20	134	53 - 141		
Carbon Disulfide	75-15-0	LCS	22.80		20	114	64 - 133		
Carbon Tetrachloride	56-23-5	LCS	21.50		20	108	72 - 136		
Chlorobenzene	108-90-7	LCS	20.90		20	104	82 - 118		
Chlorodibromomethane	124-48-1	LCS	19.90		20	99.5	74 - 126		
Chloroethane	75-00-3	LCS	21.70		20	109	60 - 138		
Chloroform	67-66-3	LCS	21.70		20	109	79 - 124		
Chloromethane	74-87-3	LCS	22.70		20	114	50 - 139		
cis-1,2-Dichloroethene	156-59-2	LCS	22.30		20	111	78 - 123		
Cyclohexane	110-82-7	LCS	22.60		20	113	71 - 130		
Dichlorodifluoromethane	75-71-8	LCS	25.70		20	128	32 - 152		
Ethylbenzene	100-41-4	LCS	21.30		20	106	79 - 121		
Freon 113	76-13-1	LCS	23		20	115	70 - 136		
Iodomethane	74-88-4	LCS	21.60		20	108	69 - 131		
Isopropylbenzene	98-82-8	LCS	23.10		20	116	72 - 131		
Methyl acetate	79-20-9	LCS	16.60		20	83.2	56 - 136		
Methyl cyclohexane	108-87-2	LCS	22.60		20	113	72 - 132		
Methyl t-Butyl Ether	1634-04-4	LCS	20.80		20	104	71 - 124		
Methylene Chloride	75-09-2	LCS	20.80		20	104	74 - 124		
Styrene	100-42-5	LCS	20.30		20	102	78 - 123		
Tetrachloroethene	127-18-4	LCS	20.40		20	102	74 - 129		
Toluene	108-88-3	LCS	21.80		20	109	80 - 121		
Total Xylenes	1330-20-7	LCS	65.20		60	109	79 - 121		
trans-1,2-Dichloroethene	156-60-5	LCS	21.80		20	109	75 - 124		
Trichloroethene	79-01-6	LCS	19.50		20	97.5	79 - 123		
Trichlorofluoromethane	75-69-4	LCS	21.70		20	109	65 - 141		
Vinyl Chloride	75-01-4	LCS	23.40		20	117	58 - 137		

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	LCS	31.60	30	105	81 - 118	
4-Bromofluorobenzene	460-00-4	LCS	31.80	30	106	85 - 114	
Dibromofluoromethane	1868-53-7	LCS	30.50	30	102	80 - 119	
Toluene-d8	2037-26-5	LCS	30.80	30	103	89 - 112	

Matrix Spike 3589143 (MS) 3272934005 For QC Batch 911074

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Matrix Spike Duplicate 3589144 (MSD) 3272934005 For QC Batch 911074

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1-Trichloroethane	71-55-6	MS	21.90	0	20	110	74 - 131		
1,1,1-Trichloroethane	71-55-6	MSD	21.80	0	20	109	74 - 131	RPD 0.47 (Max-20)	
1,1,2,2-Tetrachloroethane	79-34-5	MS	21.60	0	20	108	71 - 121		
1,1,2,2-Tetrachloroethane	79-34-5	MSD	21	0	20	105	71 - 121	RPD 2.76 (Max-20)	
1,1,2-Trichloroethane	79-00-5	MS	20.80	0	20	104	80 - 119		
1,1,2-Trichloroethane	79-00-5	MSD	20.80	0	20	104	80 - 119	RPD 0.06 (Max-20)	
1,1-Dichloroethane	75-34-3	MS	21.50	0	20	107	77 - 125		
1,1-Dichloroethane	75-34-3	MSD	21.40	0	20	107	77 - 125	RPD 0.45 (Max-20)	
1,1-Dichloroethene	75-35-4	MS	20.70	0	20	103	71 - 131		
1,1-Dichloroethene	75-35-4	MSD	20.30	0	20	101	71 - 131	RPD 1.84 (Max-20)	
1,2,3-Trichlorobenzene	87-61-6	MS	18.90	0	20	94.3	69 - 129		
1,2,3-Trichlorobenzene	87-61-6	MSD	20.90	0	20	105	69 - 129	RPD 10.40 (Max-20)	
1,2,4-Trichlorobenzene	120-82-1	MS	19.60	0	20	98.2	69 - 130		
1,2,4-Trichlorobenzene	120-82-1	MSD	20.60	0	20	103	69 - 130	RPD 4.78 (Max-20)	
1,2-Dibromo-3-chloropropane	96-12-8	MS	18.10	0	20	90.3	62 - 128		
1,2-Dibromo-3-chloropropane	96-12-8	MSD	16.80	0	20	83.9	62 - 128	RPD 7.34 (Max-20)	
1,2-Dibromoethane	106-93-4	MS	21.10	0	20	106	77 - 121		
1,2-Dibromoethane	106-93-4	MSD	21.10	0	20	106	77 - 121	RPD 0.07 (Max-20)	
1,2-Dichlorobenzene	95-50-1	MS	20.90	0	20	104	80 - 119		
1,2-Dichlorobenzene	95-50-1	MSD	21.30	0	20	106	80 - 119	RPD 1.90 (Max-20)	
1,2-Dichloroethane	107-06-2	MS	21.80	0	20	109	73 - 128		
1,2-Dichloroethane	107-06-2	MSD	22	0	20	110	73 - 128	RPD 0.62 (Max-20)	
1,2-Dichloropropane	78-87-5	MS	22.20	0	20	111	78 - 122		
1,2-Dichloropropane	78-87-5	MSD	22.40	0	20	112	78 - 122	RPD 0.72 (Max-20)	
1,3-Dichlorobenzene	541-73-1	MS	21	0	20	105	80 - 119		
1,3-Dichlorobenzene	541-73-1	MSD	21.50	0	20	107	80 - 119	RPD 2.44 (Max-20)	
1,3-Dichloropropene, Total	542-75-6	MS	40.70	0	40	102	75 - 124		
1,3-Dichloropropene, Total	542-75-6	MSD	40.10	0	40	100	75 - 124	RPD 1.58 (Max-20)	
1,4-Dichlorobenzene	106-46-7	MS	20.80	0	20	104	79 - 118		
1,4-Dichlorobenzene	106-46-7	MSD	21.30	0	20	107	79 - 118	RPD 2.51 (Max-20)	
2-Butanone	78-93-3	MS	86.10	0	100	86.1	56 - 143		
2-Butanone	78-93-3	MSD	90.40	0	100	90.4	56 - 143	RPD 4.97 (Max-20)	
2-Hexanone	591-78-6	MS	93.70	0	100	93.7	57 - 139		
2-Hexanone	591-78-6	MSD	93.60	0	100	93.6	57 - 139	RPD 0.13 (Max-20)	
4-Methyl-2-Pentanone(MIBK)	108-10-1	MS	104	0	100	104	67 - 130		
4-Methyl-2-Pentanone(MIBK)	108-10-1	MSD	104	0	100	104	67 - 130	RPD 0.15 (Max-20)	
Acetone	67-64-1	MS	105	0	100	105	39 - 160		
Acetone	67-64-1	MSD	110	0	100	110	39 - 160	RPD 5.07 (Max-20)	
Benzene	71-43-2	MS	22.80	0	20	114	79 - 120		
Benzene	71-43-2	MSD	22.50	0	20	113	79 - 120	RPD 1.27 (Max-20)	
Bromochloromethane	74-97-5	MS	22.40	0	20	112	78 - 123		
Bromochloromethane	74-97-5	MSD	22.40	0	20	112	78 - 123	RPD 0.27 (Max-20)	
Bromodichloromethane	75-27-4	MS	21.50	0	20	108	79 - 125		
Bromodichloromethane	75-27-4	MSD	22	0	20	110	79 - 125	RPD 1.89 (Max-20)	
Bromoform	75-25-2	MS	21.10	0	20	105	66 - 130		
Bromoform	75-25-2	MSD	20.30	0	20	102	66 - 130	RPD 3.74 (Max-20)	
Bromomethane	74-83-9	MS	11.50	0	20	57.4	53 - 141		
Bromomethane	74-83-9	MSD	11.90	0	20	59.6	53 - 141	RPD 3.83 (Max-20)	

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Carbon Disulfide	75-15-0	MS	21	0.30	20	103	64 - 133		
Carbon Disulfide	75-15-0	MSD	20.20	0.30	20	99.7	64 - 133	RPD 3.51 (Max-20)	
Carbon Tetrachloride	56-23-5	MS	22	0	20	110	72 - 136		
Carbon Tetrachloride	56-23-5	MSD	21.70	0	20	109	72 - 136	RPD 1.27 (Max-20)	
Chlorobenzene	108-90-7	MS	21.20	0	20	106	82 - 118		
Chlorobenzene	108-90-7	MSD	21.10	0	20	106	82 - 118	RPD 0.31 (Max-20)	
Chlorodibromomethane	124-48-1	MS	20.50	0	20	103	74 - 126		
Chlorodibromomethane	124-48-1	MSD	20.50	0	20	102	74 - 126	RPD 0.29 (Max-20)	
Chloroethane	75-00-3	MS	30.80	7.90	20	115	60 - 138		
Chloroethane	75-00-3	MSD	31	7.90	20	115	60 - 138	RPD 0.44 (Max-20)	
Chloroform	67-66-3	MS	21	0.45	20	103	79 - 124		
Chloroform	67-66-3	MSD	20.90	0.45	20	102	79 - 124	RPD 0.66 (Max-20)	
Chloromethane	74-87-3	MS	21.80	0	20	109	50 - 139		
Chloromethane	74-87-3	MSD	21.20	0	20	106	50 - 139	RPD 2.50 (Max-20)	
cis-1,2-Dichloroethene	156-59-2	MS	22.70	0.80	20	109	78 - 123		
cis-1,2-Dichloroethene	156-59-2	MSD	22.70	0.80	20	110	78 - 123	RPD 0.16 (Max-20)	
Cyclohexane	110-82-7	MS	22	0	20	110	71 - 130		
Cyclohexane	110-82-7	MSD	22.40	0	20	112	71 - 130	RPD 1.93 (Max-20)	
Dichlorodifluoromethane	75-71-8	MS	26.60	0	20	133	32 - 152		
Dichlorodifluoromethane	75-71-8	MSD	26.20	0	20	131	32 - 152	RPD 1.68 (Max-20)	
Ethylbenzene	100-41-4	MS	21.70	0	20	109	79 - 121		
Ethylbenzene	100-41-4	MSD	21.60	0	20	108	79 - 121	RPD 0.82 (Max-20)	
Freon 113	76-13-1	MS	20.90	0	20	105	70 - 136		
Freon 113	76-13-1	MSD	21.30	0	20	107	70 - 136	RPD 1.86 (Max-20)	
Iodomethane	74-88-4	MS	15.70	0	20	78.3	69 - 131		
Iodomethane	74-88-4	MSD	18.40	0	20	91.9	69 - 131	RPD 16 (Max-20)	
Isopropylbenzene	98-82-8	MS	24	0	20	120	72 - 131		
Isopropylbenzene	98-82-8	MSD	23.80	0	20	119	72 - 131	RPD 0.90 (Max-20)	
Methyl acetate	79-20-9	MS	15.50	0	20	77.3	56 - 136		
Methyl acetate	79-20-9	MSD	14.90	0	20	74.6	56 - 136	RPD 3.57 (Max-20)	
Methyl cyclohexane	108-87-2	MS	21.50	0	20	108	72 - 132		
Methyl cyclohexane	108-87-2	MSD	22.40	0	20	112	72 - 132	RPD 3.84 (Max-20)	
Methyl t-Butyl Ether	1634-04-4	MS	21.50	0	20	107	71 - 124		
Methyl t-Butyl Ether	1634-04-4	MSD	22	0	20	110	71 - 124	RPD 2.24 (Max-20)	
Methylene Chloride	75-09-2	MS	20.90	0	20	105	74 - 124		
Methylene Chloride	75-09-2	MSD	21	0	20	105	74 - 124	RPD 0.34 (Max-20)	
Styrene	100-42-5	MS	20.80	0	20	104	78 - 123		
Styrene	100-42-5	MSD	20.60	0	20	103	78 - 123	RPD 1.13 (Max-20)	
Tetrachloroethene	127-18-4	MS	21.60	0	20	108	74 - 129		
Tetrachloroethene	127-18-4	MSD	21.70	0	20	108	74 - 129	RPD 0.23 (Max-20)	
Toluene	108-88-3	MS	32.10	10.30	20	109	80 - 121		
Toluene	108-88-3	MSD	31.80	10.30	20	107	80 - 121	RPD 1.07 (Max-20)	
Total Xylenes	1330-20-7	MS	66.50	0	60	111	79 - 121		
Total Xylenes	1330-20-7	MSD	66.80	0	60	111	79 - 121	RPD 0.44 (Max-20)	
trans-1,2-Dichloroethene	156-60-5	MS	22.10	0.50	20	108	75 - 124		
trans-1,2-Dichloroethene	156-60-5	MSD	21.60	0.50	20	105	75 - 124	RPD 2.29 (Max-20)	
Trichloroethene	79-01-6	MS	20.40	0	20	102	79 - 123		
Trichloroethene	79-01-6	MSD	20.40	0	20	102	79 - 123	RPD 0.43 (Max-20)	
Trichlorofluoromethane	75-69-4	MS	22.50	0	20	113	65 - 141		

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Trichlorofluoromethane	75-69-4	MSD	22.20	0	20	111	65 - 141	RPD 1.46 (Max-20)	
Vinyl Chloride	75-01-4	MS	26.30	1.10	20	126	58 - 137		
Vinyl Chloride	75-01-4	MSD	25.30	1.10	20	121	58 - 137	RPD 3.81 (Max-20)	

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	MS	32.90	30	110	81 - 118	
1,2-Dichloroethane-d4	17060-07-0	MSD	32	30	107	81 - 118	
4-Bromofluorobenzene	460-00-4	MS	31.60	30	105	85 - 114	
4-Bromofluorobenzene	460-00-4	MSD	30.60	30	102	85 - 114	
Dibromofluoromethane	1868-53-7	MS	31	30	103	80 - 119	
Dibromofluoromethane	1868-53-7	MSD	30.40	30	101	80 - 119	
Toluene-d8	2037-26-5	MS	30.40	30	101	89 - 112	
Toluene-d8	2037-26-5	MSD	29.50	30	98.5	89 - 112	

QC Batch

QC Batch	911491	Prep Method	N/A
Date	N/A	Analysis Method	SW846 8260C
Tech.			

Associated Samples

3272934015	3272934016	3272934017	3272934018
3272934020	3272934021	3272934022	3272934023
3272934024	3272934026	3272934027	

Method Blank 3589261 (MB) Created on 11/19/2022 21:52 For QC Batch 911491

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
1,1,1-Trichloroethane	71-55-6	BLK	0.75U	ug/L	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	BLK	0.75U	ug/L	1.0	U
1,1,2-Trichloroethane	79-00-5	BLK	0.75U	ug/L	1.0	U
1,1-Dichloroethane	75-34-3	BLK	0.75U	ug/L	1.0	U
1,1-Dichloroethene	75-35-4	BLK	0.75U	ug/L	1.0	U
1,2,3-Trichlorobenzene	87-61-6	BLK	0.75U	ug/L	1.0	U
1,2,4-Trichlorobenzene	120-82-1	BLK	0.75U	ug/L	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	BLK	2.5U	ug/L	5.0	U
1,2-Dibromoethane	106-93-4	BLK	0.75U	ug/L	1.0	U
1,2-Dichlorobenzene	95-50-1	BLK	0.75U	ug/L	1.0	U
1,2-Dichloroethane	107-06-2	BLK	0.75U	ug/L	1.0	U
1,2-Dichloropropane	78-87-5	BLK	0.75U	ug/L	1.0	U
1,3-Dichlorobenzene	541-73-1	BLK	0.75U	ug/L	1.0	U
1,3-Dichloropropene, Total	542-75-6	BLK	1.5U	ug/L	2.0	U
1,4-Dichlorobenzene	106-46-7	BLK	0.75U	ug/L	1.0	U
2-Butanone	78-93-3	BLK	3.8U	ug/L	5.0	U
2-Hexanone	591-78-6	BLK	3.8U	ug/L	5.0	U
4-Methyl-2-Pentanone(MIBK)	108-10-1	BLK	3.8U	ug/L	5.0	U

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
Acetone	67-64-1	BLK	3.8U	ug/L	5.0	U
Benzene	71-43-2	BLK	0.75U	ug/L	1.0	U
Bromochloromethane	74-97-5	BLK	0.75U	ug/L	1.0	U
Bromodichloromethane	75-27-4	BLK	0.75U	ug/L	1.0	U
Bromoform	75-25-2	BLK	0.75U	ug/L	1.0	U
Bromomethane	74-83-9	BLK	0.75U	ug/L	1.0	U
Carbon Disulfide	75-15-0	BLK	0.37J	ug/L	1.0	J
Carbon Tetrachloride	56-23-5	BLK	0.75U	ug/L	1.0	U
Chlorobenzene	108-90-7	BLK	0.75U	ug/L	1.0	U
Chlorodibromomethane	124-48-1	BLK	0.75U	ug/L	1.0	U
Chloroethane	75-00-3	BLK	0.75U	ug/L	1.0	U
Chloroform	67-66-3	BLK	0.75U	ug/L	1.0	U
Chloromethane	74-87-3	BLK	0.75U	ug/L	1.0	U
cis-1,2-Dichloroethene	156-59-2	BLK	0.75U	ug/L	1.0	U
Cyclohexane	110-82-7	BLK	0.75U	ug/L	1.0	U
Dichlorodifluoromethane	75-71-8	BLK	0.75U	ug/L	1.0	U
Ethylbenzene	100-41-4	BLK	0.75U	ug/L	1.0	U
Freon 113	76-13-1	BLK	0.75U	ug/L	1.0	U
Iodomethane	74-88-4	BLK	0.66J	ug/L	1.0	J
Isopropylbenzene	98-82-8	BLK	0.75U	ug/L	1.0	U
Methyl acetate	79-20-9	BLK	0.75U	ug/L	1.0	U
Methyl cyclohexane	108-87-2	BLK	0.75U	ug/L	1.0	U
Methyl t-Butyl Ether	1634-04-4	BLK	0.75U	ug/L	1.0	U
Methylene Chloride	75-09-2	BLK	0.75U	ug/L	1.0	U
Styrene	100-42-5	BLK	0.75U	ug/L	1.0	U
Tetrachloroethene	127-18-4	BLK	0.75U	ug/L	1.0	U
Toluene	108-88-3	BLK	0.75U	ug/L	1.0	U
Total Xylenes	1330-20-7	BLK	2.3U	ug/L	3.0	U
trans-1,2-Dichloroethene	156-60-5	BLK	0.75U	ug/L	1.0	U
Trichloroethene	79-01-6	BLK	0.75U	ug/L	1.0	U
Trichlorofluoromethane	75-69-4	BLK	0.75U	ug/L	1.0	U
Vinyl Chloride	75-01-4	BLK	0.75U	ug/L	1.0	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	BLK	30.80	30	103	81 - 118	
4-Bromofluorobenzene	460-00-4	BLK	31.50	30	105	85 - 114	
Dibromofluoromethane	1868-53-7	BLK	30.60	30	102	80 - 119	
Toluene-d8	2037-26-5	BLK	31.20	30	104	89 - 112	

Lab Control Standard 3589262 (LCS) Created on 11/19/2022 21:52 For QC Batch 911491

RESULTS

Compound	CAS No	Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1-Trichloroethane	71-55-6	LCS	19.80		20	99	74 - 131		
1,1,2,2-Tetrachloroethane	79-34-5	LCS	17.90		20	89.5	71 - 121		
1,1,2-Trichloroethane	79-00-5	LCS	18.40		20	92.1	80 - 119		
1,1-Dichloroethane	75-34-3	LCS	19.40		20	96.8	77 - 125		
1,1-Dichloroethene	75-35-4	LCS	19.60		20	98.1	71 - 131		
1,2,3-Trichlorobenzene	87-61-6	LCS	19.60		20	97.9	69 - 129		
1,2,4-Trichlorobenzene	120-82-1	LCS	19.80		20	98.8	69 - 130		
1,2-Dibromo-3-chloropropane	96-12-8	LCS	14.50		20	72.4	62 - 128		
1,2-Dibromoethane	106-93-4	LCS	18.60		20	93	77 - 121		
1,2-Dichlorobenzene	95-50-1	LCS	18.70		20	93.7	80 - 119		
1,2-Dichloroethane	107-06-2	LCS	19.50		20	97.3	73 - 128		
1,2-Dichloropropane	78-87-5	LCS	19.40		20	97.1	78 - 122		
1,3-Dichlorobenzene	541-73-1	LCS	19		20	94.9	80 - 119		
1,3-Dichloropropene, Total	542-75-6	LCS	38.10		40	95.3	75 - 124		
1,4-Dichlorobenzene	106-46-7	LCS	19		20	95	79 - 118		
2-Butanone	78-93-3	LCS	88.60		100	88.6	56 - 143		
2-Hexanone	591-78-6	LCS	81		100	81	57 - 139		
4-Methyl-2-Pentanone(MIBK)	108-10-1	LCS	87		100	87	67 - 130		
Acetone	67-64-1	LCS	96.40		100	96.4	39 - 160		
Benzene	71-43-2	LCS	20.30		20	102	79 - 120		
Bromochloromethane	74-97-5	LCS	19.70		20	98.5	78 - 123		
Bromodichloromethane	75-27-4	LCS	19.40		20	96.9	79 - 125		
Bromoform	75-25-2	LCS	18.30		20	91.4	66 - 130		
Bromomethane	74-83-9	LCS	21		20	105	53 - 141		
Carbon Disulfide	75-15-0	LCS	21.40		20	107	64 - 133		
Carbon Tetrachloride	56-23-5	LCS	20		20	100	72 - 136		
Chlorobenzene	108-90-7	LCS	19.10		20	95.3	82 - 118		
Chlorodibromomethane	124-48-1	LCS	18.40		20	92.1	74 - 126		
Chloroethane	75-00-3	LCS	19.70		20	98.5	60 - 138		
Chloroform	67-66-3	LCS	19.90		20	99.4	79 - 124		
Chloromethane	74-87-3	LCS	18.70		20	93.7	50 - 139		
cis-1,2-Dichloroethene	156-59-2	LCS	20.40		20	102	78 - 123		
Cyclohexane	110-82-7	LCS	20.50		20	102	71 - 130		
Dichlorodifluoromethane	75-71-8	LCS	21.90		20	109	32 - 152		
Ethylbenzene	100-41-4	LCS	19.40		20	96.8	79 - 121		
Freon 113	76-13-1	LCS	20.30		20	102	70 - 136		
Iodomethane	74-88-4	LCS	22.80		20	114	69 - 131		
Isopropylbenzene	98-82-8	LCS	20.80		20	104	72 - 131		
Methyl acetate	79-20-9	LCS	14.80		20	74.2	56 - 136		
Methyl cyclohexane	108-87-2	LCS	20.50		20	103	72 - 132		
Methyl t-Butyl Ether	1634-04-4	LCS	19.30		20	96.3	71 - 124		
Methylene Chloride	75-09-2	LCS	19		20	95	74 - 124		
Styrene	100-42-5	LCS	17.90		20	89.5	78 - 123		
Tetrachloroethene	127-18-4	LCS	19		20	95.1	74 - 129		
Toluene	108-88-3	LCS	19.90		20	99.7	80 - 121		
Total Xylenes	1330-20-7	LCS	60.20		60	100	79 - 121		
trans-1,2-Dichloroethene	156-60-5	LCS	19.80		20	99.1	75 - 124		

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Trichloroethene	79-01-6	LCS	17.90		20	89.3	79 - 123		
Trichlorofluoromethane	75-69-4	LCS	19.80		20	99	65 - 141		
Vinyl Chloride	75-01-4	LCS	21.10		20	106	58 - 137		

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	LCS	32.10	30	107	81 - 118	
4-Bromofluorobenzene	460-00-4	LCS	31.60	30	105	85 - 114	
Dibromofluoromethane	1868-53-7	LCS	30.70	30	102	80 - 119	
Toluene-d8	2037-26-5	LCS	30.80	30	103	89 - 112	

Matrix Spike 3589325 (MS) 3272934016 For QC Batch 911491

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Matrix Spike Duplicate 3589326 (MSD) 3272934016 For QC Batch 911491

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1-Trichloroethane	71-55-6	MS	21.80	0	20	109	74 - 131		
1,1,1-Trichloroethane	71-55-6	MSD	21.70	0	20	108	74 - 131	RPD 0.44 (Max-20)	
1,1,2,2-Tetrachloroethane	79-34-5	MS	20.20	0	20	101	71 - 121		
1,1,2,2-Tetrachloroethane	79-34-5	MSD	22.10	0	20	110	71 - 121	RPD 8.98 (Max-20)	
1,1,2-Trichloroethane	79-00-5	MS	20.60	0	20	103	80 - 119		
1,1,2-Trichloroethane	79-00-5	MSD	21.70	0	20	109	80 - 119	RPD 5.64 (Max-20)	
1,1-Dichloroethane	75-34-3	MS	20.90	0	20	104	77 - 125		
1,1-Dichloroethane	75-34-3	MSD	20.90	0	20	105	77 - 125	RPD 0.37 (Max-20)	
1,1-Dichloroethene	75-35-4	MS	19.30	0	20	96.3	71 - 131		
1,1-Dichloroethene	75-35-4	MSD	19	0	20	94.9	71 - 131	RPD 1.50 (Max-20)	
1,2,3-Trichlorobenzene	87-61-6	MS	19	0	20	95.1	69 - 129		
1,2,3-Trichlorobenzene	87-61-6	MSD	23.30	0	20	116	69 - 129	RPD 20.10* (Max-20)	
1,2,4-Trichlorobenzene	120-82-1	MS	19.10	0	20	95.6	69 - 130		
1,2,4-Trichlorobenzene	120-82-1	MSD	21.70	0	20	109	69 - 130	RPD 12.80 (Max-20)	
1,2-Dibromo-3-chloropropane	96-12-8	MS	16.90	0	20	84.6	62 - 128		
1,2-Dibromo-3-chloropropane	96-12-8	MSD	18.80	0	20	93.9	62 - 128	RPD 10.40 (Max-20)	
1,2-Dibromoethane	106-93-4	MS	20.30	0	20	102	77 - 121		
1,2-Dibromoethane	106-93-4	MSD	21.80	0	20	109	77 - 121	RPD 7.21 (Max-20)	
1,2-Dichlorobenzene	95-50-1	MS	20.20	0	20	101	80 - 119		
1,2-Dichlorobenzene	95-50-1	MSD	21.50	0	20	108	80 - 119	RPD 6.27 (Max-20)	
1,2-Dichloroethane	107-06-2	MS	21.20	0	20	106	73 - 128		
1,2-Dichloroethane	107-06-2	MSD	22.30	0	20	111	73 - 128	RPD 4.85 (Max-20)	
1,2-Dichloropropane	78-87-5	MS	22	0	20	110	78 - 122		
1,2-Dichloropropane	78-87-5	MSD	22.10	0	20	110	78 - 122	RPD 0.30 (Max-20)	
1,3-Dichlorobenzene	541-73-1	MS	20.70	0	20	103	80 - 119		

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,3-Dichlorobenzene	541-73-1	MSD	21.50	0	20	108	80 - 119	RPD 3.99 (Max-20)	
1,3-Dichloropropene, Total	542-75-6	MS	40.60	0	40	102	75 - 124		
1,3-Dichloropropene, Total	542-75-6	MSD	41.30	0	40	103	75 - 124	RPD 1.58 (Max-20)	
1,4-Dichlorobenzene	106-46-7	MS	20.40	0	20	102	79 - 118		
1,4-Dichlorobenzene	106-46-7	MSD	21.40	0	20	107	79 - 118	RPD 4.42 (Max-20)	
2-Butanone	78-93-3	MS	93.90	0	100	93.9	56 - 143		
2-Butanone	78-93-3	MSD	112	0	100	112	56 - 143	RPD 17.20 (Max-20)	
2-Hexanone	591-78-6	MS	85.50	0	100	85.5	57 - 139		
2-Hexanone	591-78-6	MSD	99	0	100	99	57 - 139	RPD 14.70 (Max-20)	
4-Methyl-2-Pentanone(MIBK)	108-10-1	MS	96.50	0	100	96.5	67 - 130		
4-Methyl-2-Pentanone(MIBK)	108-10-1	MSD	108	0	100	108	67 - 130	RPD 11.50 (Max-20)	
Acetone	67-64-1	MS	92.40	0	100	92.4	39 - 160		
Acetone	67-64-1	MSD	114	0	100	114	39 - 160	RPD 20.70* (Max-20)	
Benzene	71-43-2	MS	22.30	0	20	112	79 - 120		
Benzene	71-43-2	MSD	22.20	0	20	111	79 - 120	RPD 0.37 (Max-20)	
Bromochloromethane	74-97-5	MS	21.90	0	20	109	78 - 123		
Bromochloromethane	74-97-5	MSD	22.20	0	20	111	78 - 123	RPD 1.51 (Max-20)	
Bromodichloromethane	75-27-4	MS	21.80	0	20	109	79 - 125		
Bromodichloromethane	75-27-4	MSD	21.90	0	20	110	79 - 125	RPD 0.57 (Max-20)	
Bromoform	75-25-2	MS	20.10	0	20	100	66 - 130		
Bromoform	75-25-2	MSD	20.40	0	20	102	66 - 130	RPD 1.82 (Max-20)	
Bromomethane	74-83-9	MS	12.40	0.45	20	59.7	53 - 141		
Bromomethane	74-83-9	MSD	15.70	0.45	20	76.2	53 - 141	RPD 23.50* (Max-20)	
Carbon Disulfide	75-15-0	MS	18.60	0	20	92.9	64 - 133		
Carbon Disulfide	75-15-0	MSD	17.20	0	20	86	64 - 133	RPD 7.74 (Max-20)	
Carbon Tetrachloride	56-23-5	MS	25	0	20	125	72 - 136		
Carbon Tetrachloride	56-23-5	MSD	21.80	0	20	109	72 - 136	RPD 13.70 (Max-20)	
Chlorobenzene	108-90-7	MS	21	0	20	105	82 - 118		
Chlorobenzene	108-90-7	MSD	21.60	0	20	108	82 - 118	RPD 2.65 (Max-20)	
Chlorodibromomethane	124-48-1	MS	20.40	0	20	102	74 - 126		
Chlorodibromomethane	124-48-1	MSD	20.90	0	20	104	74 - 126	RPD 2.08 (Max-20)	
Chloroethane	75-00-3	MS	24.30	0	20	122	60 - 138		
Chloroethane	75-00-3	MSD	23.30	0	20	116	60 - 138	RPD 4.47 (Max-20)	
Chloroform	67-66-3	MS	20.60	0	20	103	79 - 124		
Chloroform	67-66-3	MSD	21	0	20	105	79 - 124	RPD 1.85 (Max-20)	
Chloromethane	74-87-3	MS	21.90	0	20	109	50 - 139		
Chloromethane	74-87-3	MSD	21.40	0	20	107	50 - 139	RPD 2.05 (Max-20)	
cis-1,2-Dichloroethene	156-59-2	MS	22.10	0	20	111	78 - 123		
cis-1,2-Dichloroethene	156-59-2	MSD	22.20	0	20	111	78 - 123	RPD 0.32 (Max-20)	
Cyclohexane	110-82-7	MS	21.10	0	20	105	71 - 130		
Cyclohexane	110-82-7	MSD	21.70	0	20	108	71 - 130	RPD 2.82 (Max-20)	
Dichlorodifluoromethane	75-71-8	MS	26.20	0	20	131	32 - 152		
Dichlorodifluoromethane	75-71-8	MSD	26.30	0	20	131	32 - 152	RPD 0.32 (Max-20)	
Ethylbenzene	100-41-4	MS	21.50	0	20	107	79 - 121		
Ethylbenzene	100-41-4	MSD	21.90	0	20	110	79 - 121	RPD 2.15 (Max-20)	
Freon 113	76-13-1	MS	19.80	0	20	99	70 - 136		
Freon 113	76-13-1	MSD	20.30	0	20	102	70 - 136	RPD 2.61 (Max-20)	
Iodomethane	74-88-4	MS	11.90	0.78	20	55.4*	69 - 131		
Iodomethane	74-88-4	MSD	16	0.78	20	76.1	69 - 131	RPD 29.80* (Max-20)	

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Isopropylbenzene	98-82-8	MS	22.60	0	20	113	72 - 131		
Isopropylbenzene	98-82-8	MSD	23.70	0	20	119	72 - 131	RPD 4.72 (Max-20)	
Methyl acetate	79-20-9	MS	14.20	0	20	71.2	56 - 136		
Methyl acetate	79-20-9	MSD	16.20	0	20	81.2	56 - 136	RPD 13.20 (Max-20)	
Methyl cyclohexane	108-87-2	MS	20.80	0	20	104	72 - 132		
Methyl cyclohexane	108-87-2	MSD	22.10	0	20	110	72 - 132	RPD 6.19 (Max-20)	
Methyl t-Butyl Ether	1634-04-4	MS	20.50	0	20	102	71 - 124		
Methyl t-Butyl Ether	1634-04-4	MSD	21.80	0	20	109	71 - 124	RPD 6.24 (Max-20)	
Methylene Chloride	75-09-2	MS	20.20	0	20	101	74 - 124		
Methylene Chloride	75-09-2	MSD	20.60	0	20	103	74 - 124	RPD 1.76 (Max-20)	
Styrene	100-42-5	MS	20	0	20	99.8	78 - 123		
Styrene	100-42-5	MSD	19.70	0	20	98.7	78 - 123	RPD 1.17 (Max-20)	
Tetrachloroethene	127-18-4	MS	20.20	0	20	101	74 - 129		
Tetrachloroethene	127-18-4	MSD	20.80	0	20	104	74 - 129	RPD 3.22 (Max-20)	
Toluene	108-88-3	MS	21.90	0	20	109	80 - 121		
Toluene	108-88-3	MSD	21.80	0	20	109	80 - 121	RPD 0.20 (Max-20)	
Total Xylenes	1330-20-7	MS	66.10	0	60	110	79 - 121		
Total Xylenes	1330-20-7	MSD	66.40	0	60	111	79 - 121	RPD 0.42 (Max-20)	
trans-1,2-Dichloroethene	156-60-5	MS	20.80	0	20	104	75 - 124		
trans-1,2-Dichloroethene	156-60-5	MSD	20.50	0	20	103	75 - 124	RPD 1.34 (Max-20)	
Trichloroethene	79-01-6	MS	19.90	0	20	99.3	79 - 123		
Trichloroethene	79-01-6	MSD	19.70	0	20	98.6	79 - 123	RPD 0.78 (Max-20)	
Trichlorofluoromethane	75-69-4	MS	23.50	0	20	117	65 - 141		
Trichlorofluoromethane	75-69-4	MSD	22.90	0	20	114	65 - 141	RPD 2.65 (Max-20)	
Vinyl Chloride	75-01-4	MS	24.50	0	20	122	58 - 137		
Vinyl Chloride	75-01-4	MSD	24.30	0	20	122	58 - 137	RPD 0.63 (Max-20)	

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	MS	32.30	30	108	81 - 118	
1,2-Dichloroethane-d4	17060-07-0	MSD	32.10	30	107	81 - 118	
4-Bromofluorobenzene	460-00-4	MS	30.90	30	103	85 - 114	
4-Bromofluorobenzene	460-00-4	MSD	30.40	30	101	85 - 114	
Dibromofluoromethane	1868-53-7	MS	31	30	103	80 - 119	
Dibromofluoromethane	1868-53-7	MSD	30.90	30	103	80 - 119	
Toluene-d8	2037-26-5	MS	30.10	30	100	89 - 112	
Toluene-d8	2037-26-5	MSD	29.80	30	99.4	89 - 112	

QC Batch

QC Batch	911626	Prep Method	N/A
Date	N/A	Analysis Method	SW846 8260C
Tech.			

Associated Samples

3272934019

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

Matrix Spike 3589912 (MS) 3273372006 (non-Project Sample) For QC Batch 911626

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Matrix Spike Duplicate 3589913 (MSD) 3273372006 (non-Project Sample) For QC Batch 911626

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1-Trichloroethane	71-55-6	MS	23.80	0	20	119	74 - 131		
1,1,1-Trichloroethane	71-55-6	MSD	23	0	20	115	74 - 131	RPD 3.33 (Max-20)	
1,1,2,2-Tetrachloroethane	79-34-5	MS	22.20	0	20	111	71 - 121		
1,1,2,2-Tetrachloroethane	79-34-5	MSD	21.30	0	20	107	71 - 121	RPD 4.05 (Max-20)	
1,1,2-Trichloroethane	79-00-5	MS	21.80	0	20	109	80 - 119		
1,1,2-Trichloroethane	79-00-5	MSD	21.80	0	20	109	80 - 119	RPD 0.13 (Max-20)	
1,1-Dichloroethane	75-34-3	MS	23.10	0	20	116	77 - 125		
1,1-Dichloroethane	75-34-3	MSD	22.50	0	20	113	77 - 125	RPD 2.78 (Max-20)	
1,1-Dichloroethene	75-35-4	MS	23.70	0	20	118	71 - 131		
1,1-Dichloroethene	75-35-4	MSD	22.80	0	20	114	71 - 131	RPD 3.64 (Max-20)	
1,2,3-Trichlorobenzene	87-61-6	MS	18.80	0	20	93.8	69 - 129		
1,2,3-Trichlorobenzene	87-61-6	MSD	20.50	0	20	103	69 - 129	RPD 8.89 (Max-20)	
1,2,4-Trichlorobenzene	120-82-1	MS	19.20	0	20	96	69 - 130		
1,2,4-Trichlorobenzene	120-82-1	MSD	20.70	0	20	104	69 - 130	RPD 7.62 (Max-20)	
1,2-Dibromo-3-chloropropane	96-12-8	MS	18.20	0	20	91.1	62 - 128		
1,2-Dibromo-3-chloropropane	96-12-8	MSD	18	0	20	90	62 - 128	RPD 1.20 (Max-20)	
1,2-Dibromoethane	106-93-4	MS	21.80	0	20	109	77 - 121		
1,2-Dibromoethane	106-93-4	MSD	21.20	0	20	106	77 - 121	RPD 2.87 (Max-20)	
1,2-Dichlorobenzene	95-50-1	MS	21.20	0	20	106	80 - 119		
1,2-Dichlorobenzene	95-50-1	MSD	21.60	0	20	108	80 - 119	RPD 2.01 (Max-20)	
1,2-Dichloroethane	107-06-2	MS	23.10	0	20	116	73 - 128		
1,2-Dichloroethane	107-06-2	MSD	22.90	0	20	115	73 - 128	RPD 0.81 (Max-20)	
1,2-Dichloropropane	78-87-5	MS	23.40	0	20	117	78 - 122		
1,2-Dichloropropane	78-87-5	MSD	23.20	0	20	116	78 - 122	RPD 0.82 (Max-20)	
1,3-Dichlorobenzene	541-73-1	MS	21.40	0	20	107	80 - 119		
1,3-Dichlorobenzene	541-73-1	MSD	21.60	0	20	108	80 - 119	RPD 0.83 (Max-20)	
1,3-Dichloropropene, Total	542-75-6	MS	42.80	0	40	107	75 - 124		
1,3-Dichloropropene, Total	542-75-6	MSD	41.60	0	40	104	75 - 124	RPD 2.75 (Max-20)	
1,4-Dichlorobenzene	106-46-7	MS	21.70	0	20	108	79 - 118		
1,4-Dichlorobenzene	106-46-7	MSD	22	0	20	110	79 - 118	RPD 1.56 (Max-20)	
2-Butanone	78-93-3	MS	117	0	100	117	56 - 143		
2-Butanone	78-93-3	MSD	108	0	100	108	56 - 143	RPD 8.18 (Max-20)	
2-Hexanone	591-78-6	MS	97.80	0	100	97.8	57 - 139		
2-Hexanone	591-78-6	MSD	93.40	0	100	93.4	57 - 139	RPD 4.59 (Max-20)	
4-Methyl-2-Pentanone(MIBK)	108-10-1	MS	107	0	100	107	67 - 130		
4-Methyl-2-Pentanone(MIBK)	108-10-1	MSD	103	0	100	103	67 - 130	RPD 3.30 (Max-20)	
Acetone	67-64-1	MS	119	0	100	119	39 - 160		
Acetone	67-64-1	MSD	111	0	100	111	39 - 160	RPD 6.96 (Max-20)	
Benzene	71-43-2	MS	24.30	0	20	121*	79 - 120		
Benzene	71-43-2	MSD	23.70	0	20	118	79 - 120	RPD 2.50 (Max-20)	
Bromochloromethane	74-97-5	MS	23.50	0	20	117	78 - 123		
Bromochloromethane	74-97-5	MSD	23.50	0	20	118	78 - 123	RPD 0.08 (Max-20)	

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Bromodichloromethane	75-27-4	MS	22.70	0	20	114	79 - 125		
Bromodichloromethane	75-27-4	MSD	22.80	0	20	114	79 - 125	RPD 0.39 (Max-20)	
Bromoform	75-25-2	MS	22.20	0	20	111	66 - 130		
Bromoform	75-25-2	MSD	21.10	0	20	105	66 - 130	RPD 5.05 (Max-20)	
Bromomethane	74-83-9	MS	19.60	0	20	98.1	53 - 141		
Bromomethane	74-83-9	MSD	24.70	0	20	124	53 - 141	RPD 22.90* (Max-20)	
Carbon Disulfide	75-15-0	MS	25	0	20	125	64 - 133		
Carbon Disulfide	75-15-0	MSD	23	0	20	115	64 - 133	RPD 8.20 (Max-20)	
Carbon Tetrachloride	56-23-5	MS	27.50	0	20	137*	72 - 136		
Carbon Tetrachloride	56-23-5	MSD	26.50	0	20	132	72 - 136	RPD 3.82 (Max-20)	
Chlorobenzene	108-90-7	MS	21.90	0	20	109	82 - 118		
Chlorobenzene	108-90-7	MSD	21.60	0	20	108	82 - 118	RPD 1.50 (Max-20)	
Chlorodibromomethane	124-48-1	MS	21.50	0	20	108	74 - 126		
Chlorodibromomethane	124-48-1	MSD	21.20	0	20	106	74 - 126	RPD 1.48 (Max-20)	
Chloroethane	75-00-3	MS	24.80	0	20	124	60 - 138		
Chloroethane	75-00-3	MSD	24	0	20	120	60 - 138	RPD 3.30 (Max-20)	
Chloroform	67-66-3	MS	22.40	0.52	20	109	79 - 124		
Chloroform	67-66-3	MSD	21.90	0.52	20	107	79 - 124	RPD 2.03 (Max-20)	
Chloromethane	74-87-3	MS	23.40	0	20	117	50 - 139		
Chloromethane	74-87-3	MSD	23.50	0	20	118	50 - 139	RPD 0.44 (Max-20)	
cis-1,2-Dichloroethene	156-59-2	MS	24.10	0	20	120	78 - 123		
cis-1,2-Dichloroethene	156-59-2	MSD	23.40	0	20	117	78 - 123	RPD 2.84 (Max-20)	
Cyclohexane	110-82-7	MS	24.70	0	20	123	71 - 130		
Cyclohexane	110-82-7	MSD	24.30	0	20	121	71 - 130	RPD 1.63 (Max-20)	
Dichlorodifluoromethane	75-71-8	MS	27.30	0	20	137	32 - 152		
Dichlorodifluoromethane	75-71-8	MSD	25.90	0	20	129	32 - 152	RPD 5.51 (Max-20)	
Ethylbenzene	100-41-4	MS	22.40	0	20	112	79 - 121		
Ethylbenzene	100-41-4	MSD	22	0	20	110	79 - 121	RPD 2.04 (Max-20)	
Freon 113	76-13-1	MS	24.80	0	20	124	70 - 136		
Freon 113	76-13-1	MSD	23.80	0	20	119	70 - 136	RPD 3.90 (Max-20)	
Iodomethane	74-88-4	MS	16	0	20	80.1	69 - 131		
Iodomethane	74-88-4	MSD	18.80	0	20	94.1	69 - 131	RPD 16 (Max-20)	
Isopropylbenzene	98-82-8	MS	24.30	0	20	122	72 - 131		
Isopropylbenzene	98-82-8	MSD	23.90	0	20	119	72 - 131	RPD 1.86 (Max-20)	
Methyl acetate	79-20-9	MS	16.10	0	20	80.5	56 - 136		
Methyl acetate	79-20-9	MSD	15.20	0	20	76.1	56 - 136	RPD 5.64 (Max-20)	
Methyl cyclohexane	108-87-2	MS	23.50	0	20	117	72 - 132		
Methyl cyclohexane	108-87-2	MSD	23.40	0	20	117	72 - 132	RPD 0.25 (Max-20)	
Methyl t-Butyl Ether	1634-04-4	MS	23.40	0	20	117	71 - 124		
Methyl t-Butyl Ether	1634-04-4	MSD	23	0	20	115	71 - 124	RPD 1.77 (Max-20)	
Methylene Chloride	75-09-2	MS	22.90	0	20	114	74 - 124		
Methylene Chloride	75-09-2	MSD	22.60	0	20	113	74 - 124	RPD 1.18 (Max-20)	
Styrene	100-42-5	MS	21.40	0	20	107	78 - 123		
Styrene	100-42-5	MSD	20.60	0	20	103	78 - 123	RPD 3.82 (Max-20)	
Tetrachloroethene	127-18-4	MS	21.40	0	20	107	74 - 129		
Tetrachloroethene	127-18-4	MSD	20.90	0	20	104	74 - 129	RPD 2.57 (Max-20)	
Toluene	108-88-3	MS	23	0	20	115	80 - 121		
Toluene	108-88-3	MSD	22.40	0	20	112	80 - 121	RPD 2.76 (Max-20)	
Total Xylenes	1330-20-7	MS	68	0	60	113	79 - 121		

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Total Xylenes	1330-20-7	MSD	67.10	0	60	112	79 - 121	RPD 1.31 (Max-20)	
trans-1,2-Dichloroethene	156-60-5	MS	23.50	0	20	118	75 - 124		
trans-1,2-Dichloroethene	156-60-5	MSD	22.70	0	20	114	75 - 124	RPD 3.44 (Max-20)	
Trichloroethene	79-01-6	MS	21.40	0	20	107	79 - 123		
Trichloroethene	79-01-6	MSD	20.10	0	20	101	79 - 123	RPD 5.90 (Max-20)	
Trichlorofluoromethane	75-69-4	MS	24	0	20	120	65 - 141		
Trichlorofluoromethane	75-69-4	MSD	23.40	0	20	117	65 - 141	RPD 2.57 (Max-20)	
Vinyl Chloride	75-01-4	MS	26.20	0	20	131	58 - 137		
Vinyl Chloride	75-01-4	MSD	24.80	0	20	124	58 - 137	RPD 5.29 (Max-20)	

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	MS	33.10	30	110	81 - 118	
1,2-Dichloroethane-d4	17060-07-0	MSD	32.50	30	108	81 - 118	
4-Bromofluorobenzene	460-00-4	MS	31.80	30	106	85 - 114	
4-Bromofluorobenzene	460-00-4	MSD	31	30	103	85 - 114	
Dibromofluoromethane	1868-53-7	MS	31.70	30	106	80 - 119	
Dibromofluoromethane	1868-53-7	MSD	30.90	30	103	80 - 119	
Toluene-d8	2037-26-5	MS	30.70	30	102	89 - 112	
Toluene-d8	2037-26-5	MSD	29.60	30	98.8	89 - 112	

Method Blank 3589558 (MB) Created on 11/21/2022 09:46 For QC Batch 911626

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
1,1,1-Trichloroethane	71-55-6	BLK	0.75U	ug/L	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	BLK	0.75U	ug/L	1.0	U
1,1,2-Trichloroethane	79-00-5	BLK	0.75U	ug/L	1.0	U
1,1-Dichloroethane	75-34-3	BLK	0.75U	ug/L	1.0	U
1,1-Dichloroethene	75-35-4	BLK	0.75U	ug/L	1.0	U
1,2,3-Trichlorobenzene	87-61-6	BLK	0.75U	ug/L	1.0	U
1,2,4-Trichlorobenzene	120-82-1	BLK	0.75U	ug/L	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	BLK	2.5U	ug/L	5.0	U
1,2-Dibromoethane	106-93-4	BLK	0.75U	ug/L	1.0	U
1,2-Dichlorobenzene	95-50-1	BLK	0.75U	ug/L	1.0	U
1,2-Dichloroethane	107-06-2	BLK	0.75U	ug/L	1.0	U
1,2-Dichloropropane	78-87-5	BLK	0.75U	ug/L	1.0	U
1,3-Dichlorobenzene	541-73-1	BLK	0.75U	ug/L	1.0	U
1,3-Dichloropropene, Total	542-75-6	BLK	1.5U	ug/L	2.0	U
1,4-Dichlorobenzene	106-46-7	BLK	0.75U	ug/L	1.0	U
2-Butanone	78-93-3	BLK	3.8U	ug/L	5.0	U
2-Hexanone	591-78-6	BLK	3.8U	ug/L	5.0	U
4-Methyl-2-Pentanone(MIBK)	108-10-1	BLK	3.8U	ug/L	5.0	U
Acetone	67-64-1	BLK	3.8U	ug/L	5.0	U

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
Benzene	71-43-2	BLK	0.75U	ug/L	1.0	U
Bromochloromethane	74-97-5	BLK	0.75U	ug/L	1.0	U
Bromodichloromethane	75-27-4	BLK	0.75U	ug/L	1.0	U
Bromoform	75-25-2	BLK	0.75U	ug/L	1.0	U
Bromomethane	74-83-9	BLK	0.75U	ug/L	1.0	U
Carbon Disulfide	75-15-0	BLK	0.75U	ug/L	1.0	U
Carbon Tetrachloride	56-23-5	BLK	0.75U	ug/L	1.0	U
Chlorobenzene	108-90-7	BLK	0.75U	ug/L	1.0	U
Chlorodibromomethane	124-48-1	BLK	0.75U	ug/L	1.0	U
Chloroethane	75-00-3	BLK	0.75U	ug/L	1.0	U
Chloroform	67-66-3	BLK	0.49J	ug/L	1.0	J
Chloromethane	74-87-3	BLK	0.75U	ug/L	1.0	U
cis-1,2-Dichloroethene	156-59-2	BLK	0.75U	ug/L	1.0	U
Cyclohexane	110-82-7	BLK	0.75U	ug/L	1.0	U
Dichlorodifluoromethane	75-71-8	BLK	0.75U	ug/L	1.0	U
Ethylbenzene	100-41-4	BLK	0.75U	ug/L	1.0	U
Freon 113	76-13-1	BLK	0.75U	ug/L	1.0	U
Iodomethane	74-88-4	BLK	0.75U	ug/L	1.0	U
Isopropylbenzene	98-82-8	BLK	0.75U	ug/L	1.0	U
Methyl acetate	79-20-9	BLK	0.75U	ug/L	1.0	U
Methyl cyclohexane	108-87-2	BLK	0.75U	ug/L	1.0	U
Methyl t-Butyl Ether	1634-04-4	BLK	0.75U	ug/L	1.0	U
Methylene Chloride	75-09-2	BLK	0.75U	ug/L	1.0	U
Styrene	100-42-5	BLK	0.75U	ug/L	1.0	U
Tetrachloroethene	127-18-4	BLK	0.75U	ug/L	1.0	U
Toluene	108-88-3	BLK	0.75U	ug/L	1.0	U
Total Xylenes	1330-20-7	BLK	2.3U	ug/L	3.0	U
trans-1,2-Dichloroethene	156-60-5	BLK	0.75U	ug/L	1.0	U
Trichloroethene	79-01-6	BLK	0.75U	ug/L	1.0	U
Trichlorofluoromethane	75-69-4	BLK	0.75U	ug/L	1.0	U
Vinyl Chloride	75-01-4	BLK	0.75U	ug/L	1.0	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	BLK	31.70	30	106	81 - 118	
4-Bromofluorobenzene	460-00-4	BLK	31.40	30	105	85 - 114	
Dibromofluoromethane	1868-53-7	BLK	30.20	30	101	80 - 119	
Toluene-d8	2037-26-5	BLK	31.70	30	106	89 - 112	

Lab Control Standard 3589559 (LCS) Created on 11/21/2022 09:46 For QC Batch 911626

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1-Trichloroethane	71-55-6	LCS	22		20	110	74 - 131		

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,2,2-Tetrachloroethane	79-34-5	LCS	21.20		20	106	71 - 121		
1,1,2-Trichloroethane	79-00-5	LCS	21.90		20	110	80 - 119		
1,1-Dichloroethane	75-34-3	LCS	21.80		20	109	77 - 125		
1,1-Dichloroethene	75-35-4	LCS	21.50		20	107	71 - 131		
1,2,3-Trichlorobenzene	87-61-6	LCS	23.40		20	117	69 - 129		
1,2,4-Trichlorobenzene	120-82-1	LCS	22.50		20	112	69 - 130		
1,2-Dibromo-3-chloropropane	96-12-8	LCS	18		20	89.9	62 - 128		
1,2-Dibromoethane	106-93-4	LCS	21.80		20	109	77 - 121		
1,2-Dichlorobenzene	95-50-1	LCS	21.90		20	110	80 - 119		
1,2-Dichloroethane	107-06-2	LCS	23		20	115	73 - 128		
1,2-Dichloropropane	78-87-5	LCS	22.40		20	112	78 - 122		
1,3-Dichlorobenzene	541-73-1	LCS	21.60		20	108	80 - 119		
1,3-Dichloropropene, Total	542-75-6	LCS	41.90		40	105	75 - 124		
1,4-Dichlorobenzene	106-46-7	LCS	21.50		20	108	79 - 118		
2-Butanone	78-93-3	LCS	113		100	113	56 - 143		
2-Hexanone	591-78-6	LCS	95.90		100	95.9	57 - 139		
4-Methyl-2-Pentanone(MIBK)	108-10-1	LCS	106		100	106	67 - 130		
Acetone	67-64-1	LCS	115		100	115	39 - 160		
Benzene	71-43-2	LCS	22.70		20	114	79 - 120		
Bromochloromethane	74-97-5	LCS	23.40		20	117	78 - 123		
Bromodichloromethane	75-27-4	LCS	22.50		20	112	79 - 125		
Bromoform	75-25-2	LCS	21.70		20	108	66 - 130		
Bromomethane	74-83-9	LCS	20		20	100	53 - 141		
Carbon Disulfide	75-15-0	LCS	21.50		20	108	64 - 133		
Carbon Tetrachloride	56-23-5	LCS	25.10		20	125	72 - 136		
Chlorobenzene	108-90-7	LCS	21.10		20	106	82 - 118		
Chlorodibromomethane	124-48-1	LCS	21.60		20	108	74 - 126		
Chloroethane	75-00-3	LCS	21.20		20	106	60 - 138		
Chloroform	67-66-3	LCS	23.30		20	117	79 - 124		
Chloromethane	74-87-3	LCS	20.60		20	103	50 - 139		
cis-1,2-Dichloroethene	156-59-2	LCS	23		20	115	78 - 123		
Cyclohexane	110-82-7	LCS	22.80		20	114	71 - 130		
Dichlorodifluoromethane	75-71-8	LCS	23.50		20	118	32 - 152		
Ethylbenzene	100-41-4	LCS	21.10		20	105	79 - 121		
Freon 113	76-13-1	LCS	21.60		20	108	70 - 136		
Iodomethane	74-88-4	LCS	19.10		20	95.6	69 - 131		
Isopropylbenzene	98-82-8	LCS	22.90		20	114	72 - 131		
Methyl acetate	79-20-9	LCS	20.40		20	102	56 - 136		
Methyl cyclohexane	108-87-2	LCS	22		20	110	72 - 132		
Methyl t-Butyl Ether	1634-04-4	LCS	23.60		20	118	71 - 124		
Methylene Chloride	75-09-2	LCS	22		20	110	74 - 124		
Styrene	100-42-5	LCS	20		20	99.9	78 - 123		
Tetrachloroethene	127-18-4	LCS	23		20	115	74 - 129		
Toluene	108-88-3	LCS	21.70		20	108	80 - 121		
Total Xylenes	1330-20-7	LCS	65.60		60	109	79 - 121		
trans-1,2-Dichloroethene	156-60-5	LCS	21.60		20	108	75 - 124		
Trichloroethene	79-01-6	LCS	19.20		20	95.9	79 - 123		

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Trichlorofluoromethane	75-69-4	LCS	21		20	105	65 - 141		
Vinyl Chloride	75-01-4	LCS	22.50		20	112	58 - 137		

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	LCS	31.90	30	106	81 - 118	
4-Bromofluorobenzene	460-00-4	LCS	30.60	30	102	85 - 114	
Dibromofluoromethane	1868-53-7	LCS	30.30	30	101	80 - 119	
Toluene-d8	2037-26-5	LCS	29.60	30	98.6	89 - 112	

QC Batch

QC Batch	912196	Prep Method	N/A
Date	N/A	Analysis Method	SW846 8260C
Tech.			

Associated Samples

3272934001 3272934002 3272934006

Method Blank 3590952 (MB) Created on 11/22/2022 23:42 For QC Batch 912196

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
1,1,1-Trichloroethane	71-55-6	BLK	0.75U	ug/L	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	BLK	0.75U	ug/L	1.0	U
1,1,2-Trichloroethane	79-00-5	BLK	0.75U	ug/L	1.0	U
1,1-Dichloroethane	75-34-3	BLK	0.75U	ug/L	1.0	U
1,1-Dichloroethene	75-35-4	BLK	0.75U	ug/L	1.0	U
1,2,3-Trichlorobenzene	87-61-6	BLK	0.75U	ug/L	1.0	U
1,2,4-Trichlorobenzene	120-82-1	BLK	0.75U	ug/L	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	BLK	2.5U	ug/L	5.0	U
1,2-Dibromoethane	106-93-4	BLK	0.75U	ug/L	1.0	U
1,2-Dichlorobenzene	95-50-1	BLK	0.75U	ug/L	1.0	U
1,2-Dichloroethane	107-06-2	BLK	0.75U	ug/L	1.0	U
1,2-Dichloropropane	78-87-5	BLK	0.75U	ug/L	1.0	U
1,3-Dichlorobenzene	541-73-1	BLK	0.75U	ug/L	1.0	U
1,3-Dichloropropene, Total	542-75-6	BLK	1.5U	ug/L	2.0	U
1,4-Dichlorobenzene	106-46-7	BLK	0.75U	ug/L	1.0	U
2-Butanone	78-93-3	BLK	3.8U	ug/L	5.0	U
2-Hexanone	591-78-6	BLK	3.8U	ug/L	5.0	U
4-Methyl-2-Pentanone(MIBK)	108-10-1	BLK	3.8U	ug/L	5.0	U
Acetone	67-64-1	BLK	3.8U	ug/L	5.0	U
Benzene	71-43-2	BLK	0.75U	ug/L	1.0	U
Bromochloromethane	74-97-5	BLK	0.75U	ug/L	1.0	U
Bromodichloromethane	75-27-4	BLK	0.75U	ug/L	1.0	U
Bromoform	75-25-2	BLK	0.75U	ug/L	1.0	U

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
Bromomethane	74-83-9	BLK	0.75U	ug/L	1.0	U
Carbon Disulfide	75-15-0	BLK	0.75U	ug/L	1.0	U
Carbon Tetrachloride	56-23-5	BLK	0.75U	ug/L	1.0	U
Chlorobenzene	108-90-7	BLK	0.75U	ug/L	1.0	U
Chlorodibromomethane	124-48-1	BLK	0.75U	ug/L	1.0	U
Chloroethane	75-00-3	BLK	0.75U	ug/L	1.0	U
Chloroform	67-66-3	BLK	0.75U	ug/L	1.0	U
Chloromethane	74-87-3	BLK	0.75U	ug/L	1.0	U
cis-1,2-Dichloroethene	156-59-2	BLK	0.75U	ug/L	1.0	U
Cyclohexane	110-82-7	BLK	0.75U	ug/L	1.0	U
Dichlorodifluoromethane	75-71-8	BLK	0.75U	ug/L	1.0	U
Ethylbenzene	100-41-4	BLK	0.75U	ug/L	1.0	U
Freon 113	76-13-1	BLK	0.75U	ug/L	1.0	U
Iodomethane	74-88-4	BLK	0.75U	ug/L	1.0	U
Isopropylbenzene	98-82-8	BLK	0.75U	ug/L	1.0	U
Methyl acetate	79-20-9	BLK	0.75U	ug/L	1.0	U
Methyl cyclohexane	108-87-2	BLK	0.75U	ug/L	1.0	U
Methyl t-Butyl Ether	1634-04-4	BLK	0.75U	ug/L	1.0	U
Methylene Chloride	75-09-2	BLK	0.75U	ug/L	1.0	U
Styrene	100-42-5	BLK	0.75U	ug/L	1.0	U
Tetrachloroethene	127-18-4	BLK	0.75U	ug/L	1.0	U
Toluene	108-88-3	BLK	0.75U	ug/L	1.0	U
Total Xylenes	1330-20-7	BLK	2.3U	ug/L	3.0	U
trans-1,2-Dichloroethene	156-60-5	BLK	0.75U	ug/L	1.0	U
Trichloroethene	79-01-6	BLK	0.75U	ug/L	1.0	U
Trichlorofluoromethane	75-69-4	BLK	0.75U	ug/L	1.0	U
Vinyl Chloride	75-01-4	BLK	0.75U	ug/L	1.0	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	BLK	32.60	30	109	81 - 118	
4-Bromofluorobenzene	460-00-4	BLK	30.60	30	102	85 - 114	
Dibromofluoromethane	1868-53-7	BLK	30.70	30	102	80 - 119	
Toluene-d8	2037-26-5	BLK	30.70	30	102	89 - 112	

Lab Control Standard 3590953 (LCS) Created on 11/22/2022 23:42 For QC Batch 912196

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1-Trichloroethane	71-55-6	LCS	21.60		20	108	74 - 131		
1,1,2,2-Tetrachloroethane	79-34-5	LCS	18.50		20	92.6	71 - 121		
1,1,2-Trichloroethane	79-00-5	LCS	19.50		20	97.6	80 - 119		
1,1-Dichloroethane	75-34-3	LCS	21.20		20	106	77 - 125		
1,1-Dichloroethene	75-35-4	LCS	21.80		20	109	71 - 131		

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,2,3-Trichlorobenzene	87-61-6	LCS	19.10		20	95.4	69 - 129		
1,2,4-Trichlorobenzene	120-82-1	LCS	20.70		20	104	69 - 130		
1,2-Dibromo-3-chloropropane	96-12-8	LCS	15.20		20	76.2	62 - 128		
1,2-Dibromoethane	106-93-4	LCS	19.60		20	97.9	77 - 121		
1,2-Dichlorobenzene	95-50-1	LCS	19.80		20	98.9	80 - 119		
1,2-Dichloroethane	107-06-2	LCS	21		20	105	73 - 128		
1,2-Dichloropropane	78-87-5	LCS	21.70		20	108	78 - 122		
1,3-Dichlorobenzene	541-73-1	LCS	20.40		20	102	80 - 119		
1,3-Dichloropropene, Total	542-75-6	LCS	40.40		40	101	75 - 124		
1,4-Dichlorobenzene	106-46-7	LCS	20.70		20	103	79 - 118		
2-Butanone	78-93-3	LCS	89.50		100	89.5	56 - 143		
2-Hexanone	591-78-6	LCS	91.20		100	91.2	57 - 139		
4-Methyl-2-Pentanone(MIBK)	108-10-1	LCS	94.90		100	94.9	67 - 130		
Acetone	67-64-1	LCS	124		100	124	39 - 160		
Benzene	71-43-2	LCS	22.30		20	111	79 - 120		
Bromochloromethane	74-97-5	LCS	21.50		20	107	78 - 123		
Bromodichloromethane	75-27-4	LCS	21.20		20	106	79 - 125		
Bromoform	75-25-2	LCS	18.60		20	93	66 - 130		
Bromomethane	74-83-9	LCS	24.90		20	124	53 - 141		
Carbon Disulfide	75-15-0	LCS	23.40		20	117	64 - 133		
Carbon Tetrachloride	56-23-5	LCS	21.80		20	109	72 - 136		
Chlorobenzene	108-90-7	LCS	20.10		20	101	82 - 118		
Chlorodibromomethane	124-48-1	LCS	19.40		20	96.8	74 - 126		
Chloroethane	75-00-3	LCS	22.20		20	111	60 - 138		
Chloroform	67-66-3	LCS	21.80		20	109	79 - 124		
Chloromethane	74-87-3	LCS	20.90		20	104	50 - 139		
cis-1,2-Dichloroethene	156-59-2	LCS	22.60		20	113	78 - 123		
Cyclohexane	110-82-7	LCS	22.60		20	113	71 - 130		
Dichlorodifluoromethane	75-71-8	LCS	22.90		20	115	32 - 152		
Ethylbenzene	100-41-4	LCS	20.50		20	102	79 - 121		
Freon 113	76-13-1	LCS	22.50		20	112	70 - 136		
Iodomethane	74-88-4	LCS	19.80		20	98.8	69 - 131		
Isopropylbenzene	98-82-8	LCS	21.40		20	107	72 - 131		
Methyl acetate	79-20-9	LCS	17.40		20	86.8	56 - 136		
Methyl cyclohexane	108-87-2	LCS	21.20		20	106	72 - 132		
Methyl t-Butyl Ether	1634-04-4	LCS	21.20		20	106	71 - 124		
Methylene Chloride	75-09-2	LCS	20.90		20	104	74 - 124		
Styrene	100-42-5	LCS	19		20	94.9	78 - 123		
Tetrachloroethene	127-18-4	LCS	19.60		20	98.1	74 - 129		
Toluene	108-88-3	LCS	21		20	105	80 - 121		
Total Xylenes	1330-20-7	LCS	63.20		60	105	79 - 121		
trans-1,2-Dichloroethene	156-60-5	LCS	21.90		20	110	75 - 124		
Trichloroethene	79-01-6	LCS	18.90		20	94.5	79 - 123		
Trichlorofluoromethane	75-69-4	LCS	21.30		20	107	65 - 141		
Vinyl Chloride	75-01-4	LCS	23		20	115	58 - 137		

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	LCS	32.60	30	109	81 - 118	
4-Bromofluorobenzene	460-00-4	LCS	30.70	30	102	85 - 114	
Dibromofluoromethane	1868-53-7	LCS	30.90	30	103	80 - 119	
Toluene-d8	2037-26-5	LCS	30	30	100	89 - 112	

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3272934001	RW5-4-20221107	N/A	N/A	N/A		SW846 8260C	912196
3272934002	RW5-2-20221107	N/A	N/A	N/A		SW846 8260C	911074
		N/A	N/A	N/A		SW846 8260C	912196
3272934003	MW5-6-20221107	N/A	N/A	N/A		SW846 8260C	911074
3272934004	MW5-1DA-20221107	N/A	N/A	N/A		SW846 8260C	911074
3272934005	RW5-1-20221107	N/A	N/A	N/A		SW846 8260C	911074
3272934006	Dup-01-20221107	N/A	N/A	N/A		SW846 8260C	912196
3272934009	MW1-1DA-20221107	N/A	N/A	N/A		SW846 8260C	911074
3272934010	SW3-3-20221107	N/A	N/A	N/A		SW846 8260C	911074
3272934011	SW3-15-20221107	N/A	N/A	N/A		SW846 8260C	911074
3272934012	SW3-2-20221107	N/A	N/A	N/A		SW846 8260C	911074
3272934013	SW99-10-20221108	N/A	N/A	N/A		SW846 8260C	911074
3272934014	SW10-7-20221108	N/A	N/A	N/A		SW846 8260C	911074
3272934015	SW10-8-20221108	N/A	N/A	N/A		SW846 8260C	911491
3272934016	SW10-5-20221108	N/A	N/A	N/A		SW846 8260C	911491
3272934017	MW10-1DA-20221108	N/A	N/A	N/A		SW846 8260C	911491
3272934018	PW10-2-20221108	N/A	N/A	N/A		SW846 8260C	911491
3272934019	MW10-10D-20221108	N/A	N/A	N/A		SW846 8260C	911626
3272934020	MW10-4D-20221108	N/A	N/A	N/A		SW846 8260C	911491
3272934021	MW10-4E-20221108	N/A	N/A	N/A		SW846 8260C	911491
3272934022	PW10-1-20221108	N/A	N/A	N/A		SW846 8260C	911491
3272934023	MW10-9D-20221108	N/A	N/A	N/A		SW846 8260C	911491
3272934024	MW10-3D-20221108	N/A	N/A	N/A		SW846 8260C	911491
3272934026	Trip Blank	N/A	N/A	N/A		SW846 8260C	911491
3272934027	MW15-3-20221108	N/A	N/A	N/A		SW846 8260C	911491

301 Fulling Mill Rd, Suite A
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P. 717-944-5541

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

3272934
Logged By: CXW
PM: SJB

COC #:
ALS Quote #:

Client Name: ARCADIS Inc
Address: 110 W. Fayette, Suite 300
Syracuse, NY 13202

Contact: Adam Svensson
Phone#: 716-909-9063
Project Name/#: NFARS 30036646
Bill To:
Purchase Order #:
TAT [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required: Approved?
Email? [X]-Y corey.averill@arcadis.com

Container Type	CG							
Container Size	40mL							
Preservative	HCl							

Unless otherwise Indicated, preservation indicates field filtration on applicable methods

ANALYSES/METHOD REQUESTED

	Sample Description/Location (as it will appear on the lab report)	Date Collected mm/dd/yy	Time hh:mm	SDWA Sample Type (see key)	*G or C	**Matrix (See bottom of COC)	DOD 8260C							
	Enter Number of Containers Per Sample or Field Results Below.													
1	RW5-4-20221107	11/07/22	0915		G	GW	3							
2	RW5-2-20221107	11/07/22	0935		G	GW	3							
~~3~~	~~MW5-5D~~	~~11/07/22~~			G	GW	3							
4	MW5-6-20221107	11/07/22	0950		G	GW	3							
5	MW5-1DA-20221107	11/07/22	1105		G	GW	3							
6	RW5-1-20221107	11/07/22	1045		G	GW	3							
7	RW5-1-MS-20221107	11/07/22	1045		G	GW	3							
8	RW5-1-MSD-20221107	11/07/22	1045		G	GW	3							
9	DUP-01-20221107	11/07/22	—		G	GW	3							
10	SW8-9-20221107	11/07/22	1135		G	SW	3							

Circle Sample Collector: ALS Tech / (Client) ID:

Comments:

Date:	Time	Relinquished By / Company Name		Received By / Company Name
11/8/22	1900	1 Adam Svensson/Arcadis	2	Fedex
11.9.22	900	3 Fedex	4	
		5	6	
		7	8	
		9	10	

* G=Grab; C=Composite

**Matrix - A=Air; D=Drinking Water; GW=Groundwater; O=Oil; LW=Liquid Waste; S=Solid/Soil/Sludge; SW=Surface Water; WP=Wipe; WW=Wastewater

Receipt Information (completed by Receiving Lab)
Temp Taken By: KSB Therm ID: 570 WO Temp (°C) 3
Receipt Info completed by: MJE
WV Containers 0-6°C Y N (NA)

Cooler Custody Seals Intact	Y	N	(NA)
Sample Custody Seal Intact	Y	N	(NA)
Received on Ice	(Y)	N	NA
Coolers & Samples Intact	(Y)	N	
Correct Containers Provided	(Y)	N	
Sample Label/COC Agree	(Y)	N	
Adequate Sample Volumes	(Y)	N	
VOA only: Headspace Present	Y	(N)	NA
VOA only: Trip Blank	(Y)	N	NA

Deviations? (NO) YES
If YES, list below:

NJ ≤ 4 days? Y (N)
Courier/Tracking #: 390390798881

Client contact:
Date/Tech:

Sample(s) for Radiation testing? Y (N) Rad Screen (uCi)
Reportable SDWA Sample(s)? Y (N) New Source? Y (N)
SDWA State of Origin?
New Source Contact:
PWSID #
PWS Contact: PWS Phone #:

SDWA Sample Type Key: D=Distribution E=Entry Point
R=Raw P=Plant C=Check S=Special A=Annual Startup

11/8/22 Sample/COC Remarks

Contains Short Hold Testing YES NO

Internal Use: If less than 48 hours - notify lab upon receipt

Data Deliverables
[ ] Standard Lvl 1 [ ] CLP-like [ ] HSCA
[X] Standard Lvl 2 [ ] DOD [ ] Landfill
[ ] Standard Lvl 3 [ ] NJ RED [ ] NJ GW
[ ] Standard Lvl 4 [ ] NJ Full [ ] _____

EDD
[ ] Excel Summary [ ] Equis [ ] Custom

Sample Disposal
Lab [ ]
Special [ ]

EDDS: Format Type

State Samples Collected In
[X] NY [ ] NJ [ ] PA [ ] WV [ ] FL [ ] other

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P. 717-944-5541

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: | 2 of 4

ALS Quote #:

Client Name: ARCADIS INC.

Address: 110 W. Fayette, Suite 300
Syracuse, NY 13202

Contact: Adam Svensson

Phone#: 716-909-9063

Project Name/#: NFARS 30036646

Bill To:

Purchase Order #:

TAT: [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.

Date Required: Approved?

Email? [X]-Y Corey.averill@arcadis.com

Container Type: G

Container Size: 40mL

Preservative: HCl

Unless otherwise Indicated, preservation indicates field filtration on applicable methods

ANALYSES/METHOD REQUESTED

DOD 8260C

	Sample Description/Location (as it will appear on the lab report)	Date Collected mm/dd/yy	Time hh:mm	SDWA Sample Type (see key)	*G or C	**Matrix (See bottom of COC)	Enter Number of Containers Per Sample or Field Results Below.
1	SW8-8-MS-20221107	11/07/22	1135		G	SW	3
2	SW8-8-MSD-20221107	11/07/22	1135		G	SW	3
3	DUP-02-20221107	11/07/22	—		G	SW	3
4	MW1-1DA-20221107	11/07/22	1255		G	GW	3
5	SW3-3-20221107	11/7/22	1305		G	SW	3
6	SW3-15-20221107	11/7/22	1325		G	SW	3
7	SW3-2-20221107	11/7/22	1335		G	SW	3
8	SW99-10-20221108	11/8/22	0840		G	SW	3
9	SW10-7-20221108	11/8/22	0905		G	SW	3
10	SW10-8-20221108	11/8/22	0920		G	SW	3

Circle Sample Collector: ALS Tech / Client ID:

Comments:

Date:	Time		Relinquished By / Company Name		Received By / Company Name
11/8/22	1900	1	Adam Svensson / ARCADIS	2	Fedex
11.9.22	900	3	Fedex	4	
		5		6	
		7		8	
		9		10	

* G=Grab; C=Composite

**Matrix - A=Air; D=Drinking Water; GW=Groundwater; O=Oil; LW=Liquid Waste; S=Solid/Soil/Sludge; SW=Surface Water; WP=Wipe; WW=Wastewater

Receipt Information (completed by Receiving Lab)

Temp Taken By: KSB Therm ID: 576 WO Temp (°C) 2

Receipt Info completed by:_____ WV Containers 0-6°C Y N NA

Cooler Custody Seals Intact	Y	N	NA
Sample Custody Seal Intact	Y	N	NA
Received on Ice	Y	N	NA
Coolers & Samples Intact	Y	N	
Correct Containers Provided	Y	N	
Sample Label/COC Agree	Y	N	
Adequate Sample Volumes	Y	N	
VOA only: Headspace Present	Y	N	NA
VOA only: Trip Blank	Y	N	NA

NJ ≤ 4 days? Y N

Courier/Tracking #:_____

Deviations? NO YES

If YES, llist below:

Client contact:

Date/Tech:

Sample(s) for Radiation testing? Y N Rad Screen (uCi)_____

Reportable SDWA Sample(s)? Y N New Source? Y N

SDWA State of Origin?_____ New Source Contact:

PWSID #_____

PWS Contact:_____ PWS Phone #:_____

SDWA Sample Type Key: D=Distribution E=Entry Point
R=Raw P=Plant C=Check S=Special A=Annual Startup

Sample/COC Remarks

Contains Short Hold Testing YES NO

Internal Use: If less than 48 hours - notify lab upon receipt

Data Deliverables: [ ] Standard Lvl 1 [ ] CLP-like [ ] HSCA; [X] Standard Lvl 2 [ ] DOD [ ] Landfill; [ ] Standard Lvl 3 [ ] NJ RED [ ] NJ GW; [ ] Standard Lvl 4 [ ] NJ Full [ ] _____

EDD: [ ] Excel Summary [ ] Equis [ ] Custom

Sample Disposal: Lab [ ] Special [ ]

EDDS: Format Type

State Samples Collected In: [X] NY [ ] NJ [ ] PA [ ] WV [ ] FL [ ] other

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Middletown, PA 17057
P. 717-944-5541

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 3 of 4

ALS Quote #:

Client Name: ARCADIS Inc.

Address: 110 W Fayette, Suite 300
Syracuse, NY 13202

Contact: Adam Svensson

Phone#: 716-909-9063

Project Name/#: NFARS 30036646

Bill To:

Purchase Order #:

TAT [X] Normal-Standard TAT is 10-12 business days.
[ ] Rush-Subject to ALS approval and surcharges.

Date Required: Approved?

Email? [X]-Y corey.averill@arcadis.com

Container Type: CG
Container Size: 40mL
Preservative: HCl

Unless otherwise Indicated, preservation indicates field filtration on applicable methods

ANALYSES/METHOD REQUESTED

	Sample Description/Location (as it will appear on the lab report)	Date Collected mm/dd/yy	Time hh:mm	SDWA Sample Type (see key)	*G or C	**Matrix (See bottom of COC)	DOD 8260C
1	SW10-5-20221108	11/8/22	0930		G	SW	3
2	MW10-1DA-20221108	11/8/22	0950		G	GW	3
3	PW10-2-20221108	11/8/22	1000		G	GW	3
4	MW10-10D-20221108	11/8/22	1010		G	GW	3
5	MW10-4D-20221108	11/8/22	1030		G	GW	3
6	MW10-4E-20221108	11/8/22	1040		G	GW	3
7	PW10-1-20221108	11/8/22	1050		G	GW	3
8	MW10-9D-20221108	11/8/22	1100		G	GW	3
9	MW10-3D-20221108	11/8/22	1110		G	GW	3
10	SW99-14-20221108	11/8/22	1135		G	SW	3

Enter Number of Containers Per Sample or Field Results Below.

Circle Sample Collector: ALS Tech / Client ID:

Comments:

Date:	Time		Relinquished By / Company Name		Received By / Company Name
11/8/22	1900	1	Adam Svensson / ARCADIS	2	Fedex
11.9.22	900	3	fedex	4	
		5		6	
		7		8	
		9		10	

* G=Grab; C=Composite

**Matrix - A=Air; D=Drinking Water; GW=Groundwater; O=Oil; LW=Liquid Waste; S=Solid/Soil/Sludge; SW=Surface Water; WP=Wipe; WW=Wastewater

Receipt Information (completed by Receiving Lab)

Temp Taken By: Therm ID: WO Temp (°C)

Receipt Info completed by: WV Containers 0-6°C Y N NA

Cooler Custody Seals Intact	Y	N	NA
Sample Custody Seal Intact	Y	N	NA
Received on Ice	Y	N	NA
Coolers & Samples Intact	Y	N	
Correct Containers Provided	Y	N	
Sample Label/COC Agree	Y	N	
Adequate Sample Volumes	Y	N	
VOA only: Headspace Present	Y	N	NA
VOA only: Trip Blank	Y	N	NA

NJ ≤ 4 days? Y N

Courier/Tracking #:

Deviations? NO YES
If YES, llist below:

Client contact:
Date/Tech:

Sample(s) for Radiation testing? Y N Rad Screen (uCi)

Reportable SDWA Sample(s)? Y N New Source? Y N

SDWA State of Origin? New Source Contact:

PWSID #

PWS Contact: PWS Phone #:

SDWA Sample Type Key: D=Distribution E=Entry Point
R=Raw P=Plant C=Check S=Special A=Annual Startup

Sample/COC Remarks

Contains Short Hold Testing YES NO

Internal Use: If less than 48 hours - notify lab upon receipt

Data Deliverables: [ ] Standard Lvl 1 [ ] CLP-like [ ] HSCA; [X] Standard Lvl 2 [ ] DOD [ ] Landfill; [ ] Standard Lvl 3 [ ] NJ RED [ ] NJ GW; [ ] Standard Lvl 4 [ ] NJ Full [ ] ____

EDD: [ ] Excel Summary [ ] Equis [ ] Custom

Sample Disposal: [ ] Lab [ ] Special

EDDS: Format Type

State Samples Collected In: [X] NY [ ] NJ [ ] PA [ ] WV [ ] FL [ ] other ____

ALS SHIPPING ADDRESS: 301 Fulling Mill Road, Suite A, Middletown, PA 17057

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Middletown, PA 17057
P. 717-944-5541

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 4 of 4

ALS Quote #:

Client Name: ARCADIS Inc.

Address: 110 W. Fayette, Suite 300
Syracuse, NY 13202

Contact: Adam Svensson

Phone#: 716-909-9063

Project Name/#: NFARS 30036646

Bill To:

Purchase Order #:

TAT: [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.

Date Required: Approved?

Email? [X]-Y corey.averill@arcadis.com

	Container Type	Container Size	Preservative
	CG	40mL	HCl

Unless otherwise Indicated, preservation indicates field filtration on applicable methods

ANALYSES/METHOD REQUESTED

	Sample Description/Location (as it will appear on the lab report)	Date Collected mm/dd/yy	Time hh:mm	SDWA Sample Type (see key)	*G or C	**Matrix (See bottom of COC)	DoD 8260C									Enter Number of Containers Per Sample or Field Results Below.
1	TRIP BLANK	—	—		G	TB	3									
2	MW15-3-20221108	11/8/22	1205		G	GW	3									
3																
4																
5																
6																
7																
8																
9																
10																

Circle Sample Collector: ALS Tech / Client ID:

Comments:

Date:	Time		Relinquished By / Company Name		Received By / Company Name
11/8/22	1900	1	Adam Svensson / ARCADIS	2	Fedex
11.9.22	900	3	Fedex	4	
		5		6	
		7		8	
		9		10	

* G=Grab; C=Composite

**Matrix - A=Air; D=Drinking Water; GW=Groundwater; O=Oil; LW=Liquid Waste; S=Solid/Soil/Sludge; SW=Surface Water; WP=Wipe; WW=Wastewater

Receipt Information (completed by Receiving Lab)

Temp Taken By: Therm ID: WO Temp (°C)

Receipt Info completed by: WV Containers 0-6°C Y N NA

Cooler Custody Seals Intact	Y	N	NA
Sample Custody Seal Intact	Y	N	NA
Received on Ice	Y	N	NA
Coolers & Samples Intact	Y	N	
Correct Containers Provided	Y	N	
Sample Label/COC Agree	Y	N	
Adequate Sample Volumes	Y	N	
VOA only: Headspace Present	Y	N	NA
VOA only: Trip Blank	Y	N	NA

NJ ≤ 4 days? Y N

Courier/Tracking #:

Deviations? NO YES

If YES, list below:

Client contact:

Date/Tech:

Sample(s) for Radiation testing? Y N Rad Screen (uCi)

Reportable SDWA Sample(s)? Y N New Source? Y N

SDWA State of Origin? New Source Contact:

PWSID #

PWS Contact: PWS Phone #:

SDWA Sample Type Key: D=Distribution E=Entry Point R=Raw P=Plant C=Check S=Special A=Annual Startup

Sample/COC Remarks

Contains Short Hold Testing YES NO

Internal Use: If less than 48 hours - notify lab upon receipt

Data Deliverables: [ ] Standard Lvl 1 [ ] CLP-like [ ] HSCA; [X] Standard Lvl 2 [ ] DOD [ ] Landfill; [ ] Standard Lvl 3 [ ] NJ RED [ ] NJ GW; [ ] Standard Lvl 4 [ ] NJ Full [ ]

EDD: [ ] Excel Summary [ ] Equis [ ] Custom

Sample Disposal: Lab [ ] Special [ ]

EDDS: Format Type

State Samples Collected In: [X] NY [ ] NJ [ ] PA [ ] WV [ ] FL [ ] other

ALS SHIPPING ADDRESS: 301 Fulling Mill Road, Suite A, Middletown, PA 17057

Rev 7.19.22

Susan Scherer

From: Averill, Corey <Corey.Averill@arcadis.com>
Sent: Wednesday, November 16, 2022 2:26 PM
To: Susan Scherer; Fiona Adamsky; Svensson, Adam
Subject: [EXTERNAL] - FW: Letter of Receipt for WO 3272934
Attachments: letter of receipt_3272934_646159.PDF

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Susan/Fiona,

As noted in my prior e-mail, I'm just catching up. When reviewing the attached and the COC, I note some samples were submitted that should not have been collected.

Please do not analyze or report out data for SW8-8 or SW99-14. This may also impact DUP-02 – I have a question in to the field team about that location. Will advise as soon as I know more.

Thanks,
Corey

From: ALMDT.LIMSAUTOEMAIL@Alsglobal.com
Sent: Wednesday, November 9, 2022 10:02 PM
To: Averill, Corey
Subject: Letter of Receipt for WO 3272934

The following reports are attached:

WO 3272934 , Work ID NFARS 30036646 []

--- End Of List ---

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

Analytical Results Report For **ARCADIS US Inc - Clifton Park, NY**

Project AUC033|NFARS 30036646
Workorder 3272935
Report ID 208842 on 11/22/2022

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Nov 09, 2022.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Susan Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

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ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):
Andy Vitolins - Arcadis
Erika Denkenberger - Arcadis
Katherine Clubine - Arcadis
Corey Averill - Arcadis

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Susan Scherer

Susan Scherer *(ALS Digital Signature)*
Project Coordinator

Sample Summary

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collector	Collection Company
3272935001	PW13-1-20221107	Ground Water	11/07/2022 14:25	11/09/2022 09:00	CBC	Collected By Client
3272935002	MW13-5D-20221107	Ground Water	11/07/2022 14:30	11/09/2022 09:00	CBC	Collected By Client
3272935003	MW13-4D-20221107	Ground Water	11/07/2022 14:50	11/09/2022 09:00	CBC	Collected By Client
3272935004	PW13-4D-20221107	Ground Water	11/07/2022 15:00	11/09/2022 09:00	CBC	Collected By Client

Reference

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136.
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND) above the MDL
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Practical Quantitation Limit for this Project
ND	Not Detected - indicates that the analyte was Not Detected
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits
#	Please reference the result in the Results Section for analyte-level flags.

Project Notations

Sample Notations

Lab ID	Sample ID

Result Notations

Notation Ref.

Detected Results Summary

Client Sample ID	PW13-1-20221107	Collected	11/07/2022 14:25
Lab Sample ID	3272935001	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
cis-1,2-Dichloroethene	0.85J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Iodomethane	0.52J	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	MW13-5D-20221107	Collected	11/07/2022 14:30
Lab Sample ID	3272935002	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Bromomethane	0.42J	ug/L	1.0	0.75	0.33	SW846 8260C	#
cis-1,2-Dichloroethene	21.6	ug/L	1.0	0.75	0.33	SW846 8260C	#
Iodomethane	0.64J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	0.52J	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	MW13-4D-20221107	Collected	11/07/2022 14:50
Lab Sample ID	3272935003	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Bromomethane	0.50J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Chloroform	0.45J	ug/L	1.0	0.75	0.33	SW846 8260C	#
cis-1,2-Dichloroethene	4.8	ug/L	1.0	0.75	0.33	SW846 8260C	#
Iodomethane	0.73J	ug/L	1.0	0.75	0.33	SW846 8260C	#

Detected Results Summary

Client Sample ID	PW13-4D-20221107	Collected	11/07/2022 15:00
Lab Sample ID	3272935004	Lab Receipt	11/09/2022 09:00

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Chloroform	0.46J	ug/L	1.0	0.75	0.33	SW846 8260C	#
cis-1,2-Dichloroethene	6.7	ug/L	1.0	0.75	0.33	SW846 8260C	#
Iodomethane	0.60J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	1.0	ug/L	1.0	0.75	0.33	SW846 8260C	#

Results

Client Sample ID	PW13-1-20221107	Collected	11/07/2022 14:25
Lab Sample ID	3272935001	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/19/2022 23:50	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/19/2022 23:50	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 23:50	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 23:50	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 23:50	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/19/2022 23:50	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
cis-1,2-Dichloroethene	0.85J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Iodomethane	0.52J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/19/2022 23:50	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A

Results

Client Sample ID	PW13-1-20221107	Collected	11/07/2022 14:25
Lab Sample ID	3272935001	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/19/2022 23:50	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	108%	81 – 118	11/19/2022 23:50	
4-Bromofluorobenzene	460-00-4	111%	85 – 114	11/19/2022 23:50	
Dibromofluoromethane	1868-53-7	105%	80 – 119	11/19/2022 23:50	
Toluene-d8	2037-26-5	107%	89 – 112	11/19/2022 23:50	

Results

Client Sample ID	MW13-5D-20221107	Collected	11/07/2022 14:30
Lab Sample ID	3272935002	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/20/2022 00:13	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/20/2022 00:13	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 00:13	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 00:13	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 00:13	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 00:13	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Bromomethane	0.42J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
cis-1,2-Dichloroethene	21.6		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Iodomethane	0.64J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/20/2022 00:13	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A

Results

Client Sample ID	MW13-5D-20221107	Collected	11/07/2022 14:30
Lab Sample ID	3272935002	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A
Vinyl Chloride	0.52J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:13	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	106%	81 – 118	11/20/2022 00:13	
4-Bromofluorobenzene	460-00-4	110%	85 – 114	11/20/2022 00:13	
Dibromofluoromethane	1868-53-7	103%	80 – 119	11/20/2022 00:13	
Toluene-d8	2037-26-5	107%	89 – 112	11/20/2022 00:13	

Results

Client Sample ID	MW13-4D-20221107	Collected	11/07/2022 14:50
Lab Sample ID	3272935003	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/20/2022 00:35	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/20/2022 00:35	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 00:35	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 00:35	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 00:35	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 00:35	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Bromomethane	0.50J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Chloroform	0.45J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
cis-1,2-Dichloroethene	4.8		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Iodomethane	0.73J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/20/2022 00:35	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A

Results

Client Sample ID	MW13-4D-20221107	Collected	11/07/2022 14:50
Lab Sample ID	3272935003	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A
Vinyl Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:35	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	105%	81 – 118	11/20/2022 00:35	
4-Bromofluorobenzene	460-00-4	106%	85 – 114	11/20/2022 00:35	
Dibromofluoromethane	1868-53-7	102%	80 – 119	11/20/2022 00:35	
Toluene-d8	2037-26-5	107%	89 – 112	11/20/2022 00:35	

Results

Client Sample ID	PW13-4D-20221107	Collected	11/07/2022 15:00
Lab Sample ID	3272935004	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	11/20/2022 00:58	PDK	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	11/20/2022 00:58	PDK	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 00:58	PDK	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 00:58	PDK	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 00:58	PDK	A
Acetone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	11/20/2022 00:58	PDK	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Chloroform	0.46J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
cis-1,2-Dichloroethene	6.7		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Iodomethane	0.60J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	11/20/2022 00:58	PDK	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A

Results

Client Sample ID	PW13-4D-20221107	Collected	11/07/2022 15:00
Lab Sample ID	3272935004	Lab Receipt	11/09/2022 09:00

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A
Vinyl Chloride	1.0		ug/L	1.0	0.75	0.33	SW846 8260C	1	11/20/2022 00:58	PDK	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	106%	81 – 118	11/20/2022 00:58	
4-Bromofluorobenzene	460-00-4	113%	85 – 114	11/20/2022 00:58	
Dibromofluoromethane	1868-53-7	103%	80 – 119	11/20/2022 00:58	
Toluene-d8	2037-26-5	107%	89 – 112	11/20/2022 00:58	

Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3272935001	PW13-1-20221107	SW846 8260C	N/A	
3272935002	MW13-5D-20221107	SW846 8260C	N/A	
3272935003	MW13-4D-20221107	SW846 8260C	N/A	
3272935004	PW13-4D-20221107	SW846 8260C	N/A	

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS

QC Batch

QC Batch	911491	Prep Method	N/A
Date	N/A	Analysis Method	SW846 8260C
Tech.			

Associated Samples

3272935001 3272935002 3272935003 3272935004

Matrix Spike 3589325 (MS) 3272934016 (non-Project Sample) For QC Batch 911491

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Matrix Spike Duplicate 3589326 (MSD) 3272934016 (non-Project Sample) For QC Batch 911491

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1-Trichloroethane	71-55-6	MS	21.80	0	20	109	74 - 131		
1,1,1-Trichloroethane	71-55-6	MSD	21.70	0	20	108	74 - 131	RPD 0.44 (Max-20)	
1,1,2,2-Tetrachloroethane	79-34-5	MS	20.20	0	20	101	71 - 121		
1,1,2,2-Tetrachloroethane	79-34-5	MSD	22.10	0	20	110	71 - 121	RPD 8.98 (Max-20)	
1,1,2-Trichloroethane	79-00-5	MS	20.60	0	20	103	80 - 119		
1,1,2-Trichloroethane	79-00-5	MSD	21.70	0	20	109	80 - 119	RPD 5.64 (Max-20)	
1,1-Dichloroethane	75-34-3	MS	20.90	0	20	104	77 - 125		
1,1-Dichloroethane	75-34-3	MSD	20.90	0	20	105	77 - 125	RPD 0.37 (Max-20)	
1,1-Dichloroethene	75-35-4	MS	19.30	0	20	96.3	71 - 131		
1,1-Dichloroethene	75-35-4	MSD	19	0	20	94.9	71 - 131	RPD 1.50 (Max-20)	
1,2,3-Trichlorobenzene	87-61-6	MS	19	0	20	95.1	69 - 129		
1,2,3-Trichlorobenzene	87-61-6	MSD	23.30	0	20	116	69 - 129	RPD 20.10* (Max-20)	
1,2,4-Trichlorobenzene	120-82-1	MS	19.10	0	20	95.6	69 - 130		
1,2,4-Trichlorobenzene	120-82-1	MSD	21.70	0	20	109	69 - 130	RPD 12.80 (Max-20)	
1,2-Dibromo-3-chloropropane	96-12-8	MS	16.90	0	20	84.6	62 - 128		
1,2-Dibromo-3-chloropropane	96-12-8	MSD	18.80	0	20	93.9	62 - 128	RPD 10.40 (Max-20)	
1,2-Dibromoethane	106-93-4	MS	20.30	0	20	102	77 - 121		
1,2-Dibromoethane	106-93-4	MSD	21.80	0	20	109	77 - 121	RPD 7.21 (Max-20)	
1,2-Dichlorobenzene	95-50-1	MS	20.20	0	20	101	80 - 119		
1,2-Dichlorobenzene	95-50-1	MSD	21.50	0	20	108	80 - 119	RPD 6.27 (Max-20)	
1,2-Dichloroethane	107-06-2	MS	21.20	0	20	106	73 - 128		
1,2-Dichloroethane	107-06-2	MSD	22.30	0	20	111	73 - 128	RPD 4.85 (Max-20)	
1,2-Dichloropropane	78-87-5	MS	22	0	20	110	78 - 122		
1,2-Dichloropropane	78-87-5	MSD	22.10	0	20	110	78 - 122	RPD 0.30 (Max-20)	
1,3-Dichlorobenzene	541-73-1	MS	20.70	0	20	103	80 - 119		
1,3-Dichlorobenzene	541-73-1	MSD	21.50	0	20	108	80 - 119	RPD 3.99 (Max-20)	
1,3-Dichloropropene, Total	542-75-6	MS	40.60	0	40	102	75 - 124		
1,3-Dichloropropene, Total	542-75-6	MSD	41.30	0	40	103	75 - 124	RPD 1.58 (Max-20)	
1,4-Dichlorobenzene	106-46-7	MS	20.40	0	20	102	79 - 118		
1,4-Dichlorobenzene	106-46-7	MSD	21.40	0	20	107	79 - 118	RPD 4.42 (Max-20)	
2-Butanone	78-93-3	MS	93.90	0	100	93.9	56 - 143		
2-Butanone	78-93-3	MSD	112	0	100	112	56 - 143	RPD 17.20 (Max-20)	
2-Hexanone	591-78-6	MS	85.50	0	100	85.5	57 - 139		
2-Hexanone	591-78-6	MSD	99	0	100	99	57 - 139	RPD 14.70 (Max-20)	
4-Methyl-2-Pentanone(MIBK)	108-10-1	MS	96.50	0	100	96.5	67 - 130		

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
4-Methyl-2-Pentanone(MIBK)	108-10-1	MSD	108	0	100	108	67 - 130	RPD 11.50 (Max-20)	
Acetone	67-64-1	MS	92.40	0	100	92.4	39 - 160		
Acetone	67-64-1	MSD	114	0	100	114	39 - 160	RPD 20.70* (Max-20)	
Benzene	71-43-2	MS	22.30	0	20	112	79 - 120		
Benzene	71-43-2	MSD	22.20	0	20	111	79 - 120	RPD 0.37 (Max-20)	
Bromochloromethane	74-97-5	MS	21.90	0	20	109	78 - 123		
Bromochloromethane	74-97-5	MSD	22.20	0	20	111	78 - 123	RPD 1.51 (Max-20)	
Bromodichloromethane	75-27-4	MS	21.80	0	20	109	79 - 125		
Bromodichloromethane	75-27-4	MSD	21.90	0	20	110	79 - 125	RPD 0.57 (Max-20)	
Bromoform	75-25-2	MS	20.10	0	20	100	66 - 130		
Bromoform	75-25-2	MSD	20.40	0	20	102	66 - 130	RPD 1.82 (Max-20)	
Bromomethane	74-83-9	MS	12.40	0.45	20	59.7	53 - 141		
Bromomethane	74-83-9	MSD	15.70	0.45	20	76.2	53 - 141	RPD 23.50* (Max-20)	
Carbon Disulfide	75-15-0	MS	18.60	0	20	92.9	64 - 133		
Carbon Disulfide	75-15-0	MSD	17.20	0	20	86	64 - 133	RPD 7.74 (Max-20)	
Carbon Tetrachloride	56-23-5	MS	25	0	20	125	72 - 136		
Carbon Tetrachloride	56-23-5	MSD	21.80	0	20	109	72 - 136	RPD 13.70 (Max-20)	
Chlorobenzene	108-90-7	MS	21	0	20	105	82 - 118		
Chlorobenzene	108-90-7	MSD	21.60	0	20	108	82 - 118	RPD 2.65 (Max-20)	
Chlorodibromomethane	124-48-1	MS	20.40	0	20	102	74 - 126		
Chlorodibromomethane	124-48-1	MSD	20.90	0	20	104	74 - 126	RPD 2.08 (Max-20)	
Chloroethane	75-00-3	MS	24.30	0	20	122	60 - 138		
Chloroethane	75-00-3	MSD	23.30	0	20	116	60 - 138	RPD 4.47 (Max-20)	
Chloroform	67-66-3	MS	20.60	0	20	103	79 - 124		
Chloroform	67-66-3	MSD	21	0	20	105	79 - 124	RPD 1.85 (Max-20)	
Chloromethane	74-87-3	MS	21.90	0	20	109	50 - 139		
Chloromethane	74-87-3	MSD	21.40	0	20	107	50 - 139	RPD 2.05 (Max-20)	
cis-1,2-Dichloroethene	156-59-2	MS	22.10	0	20	111	78 - 123		
cis-1,2-Dichloroethene	156-59-2	MSD	22.20	0	20	111	78 - 123	RPD 0.32 (Max-20)	
Cyclohexane	110-82-7	MS	21.10	0	20	105	71 - 130		
Cyclohexane	110-82-7	MSD	21.70	0	20	108	71 - 130	RPD 2.82 (Max-20)	
Dichlorodifluoromethane	75-71-8	MS	26.20	0	20	131	32 - 152		
Dichlorodifluoromethane	75-71-8	MSD	26.30	0	20	131	32 - 152	RPD 0.32 (Max-20)	
Ethylbenzene	100-41-4	MS	21.50	0	20	107	79 - 121		
Ethylbenzene	100-41-4	MSD	21.90	0	20	110	79 - 121	RPD 2.15 (Max-20)	
Freon 113	76-13-1	MS	19.80	0	20	99	70 - 136		
Freon 113	76-13-1	MSD	20.30	0	20	102	70 - 136	RPD 2.61 (Max-20)	
Iodomethane	74-88-4	MS	11.90	0.78	20	55.4*	69 - 131		
Iodomethane	74-88-4	MSD	16	0.78	20	76.1	69 - 131	RPD 29.80* (Max-20)	
Isopropylbenzene	98-82-8	MS	22.60	0	20	113	72 - 131		
Isopropylbenzene	98-82-8	MSD	23.70	0	20	119	72 - 131	RPD 4.72 (Max-20)	
Methyl acetate	79-20-9	MS	14.20	0	20	71.2	56 - 136		
Methyl acetate	79-20-9	MSD	16.20	0	20	81.2	56 - 136	RPD 13.20 (Max-20)	
Methyl cyclohexane	108-87-2	MS	20.80	0	20	104	72 - 132		
Methyl cyclohexane	108-87-2	MSD	22.10	0	20	110	72 - 132	RPD 6.19 (Max-20)	
Methyl t-Butyl Ether	1634-04-4	MS	20.50	0	20	102	71 - 124		
Methyl t-Butyl Ether	1634-04-4	MSD	21.80	0	20	109	71 - 124	RPD 6.24 (Max-20)	
Methylene Chloride	75-09-2	MS	20.20	0	20	101	74 - 124		
Methylene Chloride	75-09-2	MSD	20.60	0	20	103	74 - 124	RPD 1.76 (Max-20)	

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Styrene	100-42-5	MS	20	0	20	99.8	78 - 123		
Styrene	100-42-5	MSD	19.70	0	20	98.7	78 - 123	RPD 1.17 (Max-20)	
Tetrachloroethene	127-18-4	MS	20.20	0	20	101	74 - 129		
Tetrachloroethene	127-18-4	MSD	20.80	0	20	104	74 - 129	RPD 3.22 (Max-20)	
Toluene	108-88-3	MS	21.90	0	20	109	80 - 121		
Toluene	108-88-3	MSD	21.80	0	20	109	80 - 121	RPD 0.20 (Max-20)	
Total Xylenes	1330-20-7	MS	66.10	0	60	110	79 - 121		
Total Xylenes	1330-20-7	MSD	66.40	0	60	111	79 - 121	RPD 0.42 (Max-20)	
trans-1,2-Dichloroethene	156-60-5	MS	20.80	0	20	104	75 - 124		
trans-1,2-Dichloroethene	156-60-5	MSD	20.50	0	20	103	75 - 124	RPD 1.34 (Max-20)	
Trichloroethene	79-01-6	MS	19.90	0	20	99.3	79 - 123		
Trichloroethene	79-01-6	MSD	19.70	0	20	98.6	79 - 123	RPD 0.78 (Max-20)	
Trichlorofluoromethane	75-69-4	MS	23.50	0	20	117	65 - 141		
Trichlorofluoromethane	75-69-4	MSD	22.90	0	20	114	65 - 141	RPD 2.65 (Max-20)	
Vinyl Chloride	75-01-4	MS	24.50	0	20	122	58 - 137		
Vinyl Chloride	75-01-4	MSD	24.30	0	20	122	58 - 137	RPD 0.63 (Max-20)	

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	MS	32.30	30	108	81 - 118	
1,2-Dichloroethane-d4	17060-07-0	MSD	32.10	30	107	81 - 118	
4-Bromofluorobenzene	460-00-4	MS	30.90	30	103	85 - 114	
4-Bromofluorobenzene	460-00-4	MSD	30.40	30	101	85 - 114	
Dibromofluoromethane	1868-53-7	MS	31	30	103	80 - 119	
Dibromofluoromethane	1868-53-7	MSD	30.90	30	103	80 - 119	
Toluene-d8	2037-26-5	MS	30.10	30	100	89 - 112	
Toluene-d8	2037-26-5	MSD	29.80	30	99.4	89 - 112	

Method Blank 3589261 (MB) Created on 11/19/2022 21:52 For QC Batch 911491

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
1,1,1-Trichloroethane	71-55-6	BLK	0.75U	ug/L	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	BLK	0.75U	ug/L	1.0	U
1,1,2-Trichloroethane	79-00-5	BLK	0.75U	ug/L	1.0	U
1,1-Dichloroethane	75-34-3	BLK	0.75U	ug/L	1.0	U
1,1-Dichloroethene	75-35-4	BLK	0.75U	ug/L	1.0	U
1,2,3-Trichlorobenzene	87-61-6	BLK	0.75U	ug/L	1.0	U
1,2,4-Trichlorobenzene	120-82-1	BLK	0.75U	ug/L	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	BLK	2.5U	ug/L	5.0	U
1,2-Dibromoethane	106-93-4	BLK	0.75U	ug/L	1.0	U
1,2-Dichlorobenzene	95-50-1	BLK	0.75U	ug/L	1.0	U
1,2-Dichloroethane	107-06-2	BLK	0.75U	ug/L	1.0	U
1,2-Dichloropropane	78-87-5	BLK	0.75U	ug/L	1.0	U

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
1,3-Dichlorobenzene	541-73-1	BLK	0.75U	ug/L	1.0	U
1,3-Dichloropropene, Total	542-75-6	BLK	1.5U	ug/L	2.0	U
1,4-Dichlorobenzene	106-46-7	BLK	0.75U	ug/L	1.0	U
2-Butanone	78-93-3	BLK	3.8U	ug/L	5.0	U
2-Hexanone	591-78-6	BLK	3.8U	ug/L	5.0	U
4-Methyl-2-Pentanone(MIBK)	108-10-1	BLK	3.8U	ug/L	5.0	U
Acetone	67-64-1	BLK	3.8U	ug/L	5.0	U
Benzene	71-43-2	BLK	0.75U	ug/L	1.0	U
Bromochloromethane	74-97-5	BLK	0.75U	ug/L	1.0	U
Bromodichloromethane	75-27-4	BLK	0.75U	ug/L	1.0	U
Bromoform	75-25-2	BLK	0.75U	ug/L	1.0	U
Bromomethane	74-83-9	BLK	0.75U	ug/L	1.0	U
Carbon Disulfide	75-15-0	BLK	0.37J	ug/L	1.0	J
Carbon Tetrachloride	56-23-5	BLK	0.75U	ug/L	1.0	U
Chlorobenzene	108-90-7	BLK	0.75U	ug/L	1.0	U
Chlorodibromomethane	124-48-1	BLK	0.75U	ug/L	1.0	U
Chloroethane	75-00-3	BLK	0.75U	ug/L	1.0	U
Chloroform	67-66-3	BLK	0.75U	ug/L	1.0	U
Chloromethane	74-87-3	BLK	0.75U	ug/L	1.0	U
cis-1,2-Dichloroethene	156-59-2	BLK	0.75U	ug/L	1.0	U
Cyclohexane	110-82-7	BLK	0.75U	ug/L	1.0	U
Dichlorodifluoromethane	75-71-8	BLK	0.75U	ug/L	1.0	U
Ethylbenzene	100-41-4	BLK	0.75U	ug/L	1.0	U
Freon 113	76-13-1	BLK	0.75U	ug/L	1.0	U
Iodomethane	74-88-4	BLK	0.66J	ug/L	1.0	J
Isopropylbenzene	98-82-8	BLK	0.75U	ug/L	1.0	U
Methyl acetate	79-20-9	BLK	0.75U	ug/L	1.0	U
Methyl cyclohexane	108-87-2	BLK	0.75U	ug/L	1.0	U
Methyl t-Butyl Ether	1634-04-4	BLK	0.75U	ug/L	1.0	U
Methylene Chloride	75-09-2	BLK	0.75U	ug/L	1.0	U
Styrene	100-42-5	BLK	0.75U	ug/L	1.0	U
Tetrachloroethene	127-18-4	BLK	0.75U	ug/L	1.0	U
Toluene	108-88-3	BLK	0.75U	ug/L	1.0	U
Total Xylenes	1330-20-7	BLK	2.3U	ug/L	3.0	U
trans-1,2-Dichloroethene	156-60-5	BLK	0.75U	ug/L	1.0	U
Trichloroethene	79-01-6	BLK	0.75U	ug/L	1.0	U
Trichlorofluoromethane	75-69-4	BLK	0.75U	ug/L	1.0	U
Vinyl Chloride	75-01-4	BLK	0.75U	ug/L	1.0	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	BLK	30.80	30	103	81 - 118	
4-Bromofluorobenzene	460-00-4	BLK	31.50	30	105	85 - 114	
Dibromofluoromethane	1868-53-7	BLK	30.60	30	102	80 - 119	
Toluene-d8	2037-26-5	BLK	31.20	30	104	89 - 112	

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

Lab Control Standard 3589262 (LCS) Created on 11/19/2022 21:52 For QC Batch 911491

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1-Trichloroethane	71-55-6	LCS	19.80		20	99	74 - 131		
1,1,2,2-Tetrachloroethane	79-34-5	LCS	17.90		20	89.5	71 - 121		
1,1,2-Trichloroethane	79-00-5	LCS	18.40		20	92.1	80 - 119		
1,1-Dichloroethane	75-34-3	LCS	19.40		20	96.8	77 - 125		
1,1-Dichloroethene	75-35-4	LCS	19.60		20	98.1	71 - 131		
1,2,3-Trichlorobenzene	87-61-6	LCS	19.60		20	97.9	69 - 129		
1,2,4-Trichlorobenzene	120-82-1	LCS	19.80		20	98.8	69 - 130		
1,2-Dibromo-3-chloropropane	96-12-8	LCS	14.50		20	72.4	62 - 128		
1,2-Dibromoethane	106-93-4	LCS	18.60		20	93	77 - 121		
1,2-Dichlorobenzene	95-50-1	LCS	18.70		20	93.7	80 - 119		
1,2-Dichloroethane	107-06-2	LCS	19.50		20	97.3	73 - 128		
1,2-Dichloropropane	78-87-5	LCS	19.40		20	97.1	78 - 122		
1,3-Dichlorobenzene	541-73-1	LCS	19		20	94.9	80 - 119		
1,3-Dichloropropene, Total	542-75-6	LCS	38.10		40	95.3	75 - 124		
1,4-Dichlorobenzene	106-46-7	LCS	19		20	95	79 - 118		
2-Butanone	78-93-3	LCS	88.60		100	88.6	56 - 143		
2-Hexanone	591-78-6	LCS	81		100	81	57 - 139		
4-Methyl-2-Pentanone(MIBK)	108-10-1	LCS	87		100	87	67 - 130		
Acetone	67-64-1	LCS	96.40		100	96.4	39 - 160		
Benzene	71-43-2	LCS	20.30		20	102	79 - 120		
Bromochloromethane	74-97-5	LCS	19.70		20	98.5	78 - 123		
Bromodichloromethane	75-27-4	LCS	19.40		20	96.9	79 - 125		
Bromoform	75-25-2	LCS	18.30		20	91.4	66 - 130		
Bromomethane	74-83-9	LCS	21		20	105	53 - 141		
Carbon Disulfide	75-15-0	LCS	21.40		20	107	64 - 133		
Carbon Tetrachloride	56-23-5	LCS	20		20	100	72 - 136		
Chlorobenzene	108-90-7	LCS	19.10		20	95.3	82 - 118		
Chlorodibromomethane	124-48-1	LCS	18.40		20	92.1	74 - 126		
Chloroethane	75-00-3	LCS	19.70		20	98.5	60 - 138		
Chloroform	67-66-3	LCS	19.90		20	99.4	79 - 124		
Chloromethane	74-87-3	LCS	18.70		20	93.7	50 - 139		
cis-1,2-Dichloroethene	156-59-2	LCS	20.40		20	102	78 - 123		
Cyclohexane	110-82-7	LCS	20.50		20	102	71 - 130		
Dichlorodifluoromethane	75-71-8	LCS	21.90		20	109	32 - 152		
Ethylbenzene	100-41-4	LCS	19.40		20	96.8	79 - 121		
Freon 113	76-13-1	LCS	20.30		20	102	70 - 136		
Iodomethane	74-88-4	LCS	22.80		20	114	69 - 131		
Isopropylbenzene	98-82-8	LCS	20.80		20	104	72 - 131		
Methyl acetate	79-20-9	LCS	14.80		20	74.2	56 - 136		
Methyl cyclohexane	108-87-2	LCS	20.50		20	103	72 - 132		
Methyl t-Butyl Ether	1634-04-4	LCS	19.30		20	96.3	71 - 124		
Methylene Chloride	75-09-2	LCS	19		20	95	74 - 124		
Styrene	100-42-5	LCS	17.90		20	89.5	78 - 123		
Tetrachloroethene	127-18-4	LCS	19		20	95.1	74 - 129		

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Toluene	108-88-3	LCS	19.90		20	99.7	80 - 121		
Total Xylenes	1330-20-7	LCS	60.20		60	100	79 - 121		
trans-1,2-Dichloroethene	156-60-5	LCS	19.80		20	99.1	75 - 124		
Trichloroethene	79-01-6	LCS	17.90		20	89.3	79 - 123		
Trichlorofluoromethane	75-69-4	LCS	19.80		20	99	65 - 141		
Vinyl Chloride	75-01-4	LCS	21.10		20	106	58 - 137		

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	LCS	32.10	30	107	81 - 118	
4-Bromofluorobenzene	460-00-4	LCS	31.60	30	105	85 - 114	
Dibromofluoromethane	1868-53-7	LCS	30.70	30	102	80 - 119	
Toluene-d8	2037-26-5	LCS	30.80	30	103	89 - 112	

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3272935001	PW13-1-20221107	N/A	N/A	N/A		SW846 8260C	911491
3272935002	MW13-5D-20221107	N/A	N/A	N/A		SW846 8260C	911491
3272935003	MW13-4D-20221107	N/A	N/A	N/A		SW846 8260C	911491
3272935004	PW13-4D-20221107	N/A	N/A	N/A		SW846 8260C	911491

301 Fulling Mill Rd, Suite A
Middletown, PA 17057
P. 717-944-5541

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 3272935
ALS Quote #:
Logged By: CXW
PM: SJB

Client Name: ARCADIS, INC.
Address: 110 W. Fayette, Suite 300
Syracuse, NY 13202

Contact: Adam Svensson
Phone#: 716-909-9063
Project Name/#: NEARS 30036646
Bill To:
Purchase Order #:
TAT: [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required: Approved?
Email? [X]-Y corey.averill@arcadis.com

Unless otherwise Indicated, preservation indicates field filtration on applicable methods

Sample Description/Location (as it will appear on the lab report)	Date Collected mm/dd/yy	Time hh:mm	SDWA Sample Type (see key)	*G or C	**Matrix (See bottom of COC)	Container Type	Container Size	Preservative	DOD 8260C							
						CG	40mL	HCl	Enter Number of Containers Per Sample or Field Results Below.							
1 PW13-1-20221107	11/07/22	1425		G	GW				3							
2 MW13-5D-20221107	11/07/22	1430		G	GW				3							
3 MW13-4D-20221107	11/07/22	1450		G	GW				3							
4 PW13-4D-20221107	11/07/22	1500		G	GW				3							
5 ~~PW10-10D~~																
6																
7																
8																
9																
10																

Circle Sample Collector: ALS Tech / (Client) ID:

Comments:

Date:	Time		Relinquished By / Company Name		Received By / Company Name
11/8/22	1900	1	Adam Svensson/ARCADIS	2	Fedex
11.9.22	900	3	Fedex	4	
		5		6	
		7		8	
		9		10	

* G=Grab; C=Composite
**Matrix - A=Air; D=Drinking Water; GW=Groundwater; O=Oil; LW=Liquid Waste; S=Solid/Soil/Sludge; SW=Surface Water; WP=Wipe; WW=Wastewater

Receipt Informati
Temp Taken By: KSB Therm ID: 570 WO Temp (°C): 2.2
Receipt Info completed by: MJE
WV Containers 0-6°C Y N (NA)
Cooler Custody Seals Intact Y N (NA)
Sample Custody Seal Intact Y N (NA)
Received on Ice (Y) N NA
Coolers & Samples Intact (Y) N
Correct Containers Provided (Y) N
Sample Label/COC Agree (Y) N
Adequate Sample Volumes (Y) N
VOA only: Headspace Present Y (N) NA
VOA only: Trip Blank Y (N) NA
NJ ≤ 4 days? Y (N)
Courier/Tracking #: 390390799518
Deviations? (NO) YES
If YES, list below:
Client contact:
Date/Tech:
Sample(s) for Radiation testing? Y (N) Rad Screen (uCi):
Reportable SDWA Sample(s)? Y (N) New Source? Y (N)
SDWA State of Origin?
PWSID #
New Source Contact:
PWS Contact: PWS Phone #:

SDWA Sample Type Key: D=Distribution E=Entry Point R=Raw P=Plant C=Check S=Special A=Annual Startup

Sample/COC Remarks
11/8/22

Contains Short Hold Testing YES NO
Internal Use: If less than 48 hours - notify lab upon receipt

Data Deliverables: [ ] Standard Lvl 1 [ ] CLP-like [ ] HSCA; [ ] Standard Lvl 2 [ ] DOD [ ] Landfill; [ ] Standard Lvl 3 [ ] NJ RED [ ] NJ GW; [X] Standard Lvl 4 [ ] NJ Full [ ]
EDD: [ ] Excel Summary [ ] Equis [ ] Custom
Sample Disposal: Lab [ ] Special [ ]
EDDS: Format Type
State Samples Collected In: [X] NY [ ] NJ [ ] PA [ ] WV [ ] FL [ ] other

ALS SHIPPING ADDRESS: 301 Fulling Mill Road, Suite A, Middletown, PA 17057

Rev 7.19.22

301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | Fax: 717-944-1430 | www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

Analytical Results Report For **ARCADIS US Inc - Clifton Park, NY**

Project AUC037|NFARS 30036646
Workorder 3277387
Report ID 213975 on 12/19/2022

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Dec 07, 2022.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Susan Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

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ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):
Andy Vitolins - Arcadis
Erika Denkenberger - Arcadis
Katherine Clubine - Arcadis
Corey Averill - Arcadis

Susan Scherer

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Susan Scherer *(ALS Digital Signature)*
Project Coordinator

Sample Summary

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collector	Collection Company
3277387001	MW5-5D-20221206	Ground Water	12/06/2022 10:00	12/07/2022 09:05	CBC	Collected By Client

Reference

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136.
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND) above the MDL
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Practical Quantitation Limit for this Project
ND	Not Detected - indicates that the analyte was Not Detected
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits
#	Please reference the result in the Results Section for analyte-level flags.

Project Notations

Sample Notations

Lab ID	Sample ID

Result Notations

Notation Ref.	
1	The Method Blank for method SW846 8260C reported a value greater than the reporting level for the analyte Iodomethane. The concentration was 1.09735

Detected Results Summary

Client Sample ID	MW5-5D-20221206	Collected	12/06/2022 10:00
Lab Sample ID	3277387001	Lab Receipt	12/07/2022 09:05

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
VOLATILE ORGANICS							
Acetone	6.9	ug/L	5.0	3.8	1.6	SW846 8260C	#
cis-1,2-Dichloroethene	1.3	ug/L	1.0	0.75	0.33	SW846 8260C	#
Iodomethane	0.87J	ug/L	1.0	0.75	0.33	SW846 8260C	#
Trichloroethene	1.6	ug/L	1.0	0.75	0.33	SW846 8260C	#
Vinyl Chloride	0.48J	ug/L	1.0	0.75	0.33	SW846 8260C	#

Results

Client Sample ID	MW5-5D-20221206	Collected	12/06/2022 10:00
Lab Sample ID	3277387001	Lab Receipt	12/07/2022 09:05

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
1,1,2,2-Tetrachloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
1,1,2-Trichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
1,1-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
1,1-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
1,2,3-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
1,2,4-Trichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
1,2-Dibromo-3-chloropropane	2.5U	U	ug/L	5.0	2.5	1.6	SW846 8260C	1	12/17/2022 19:51	TMP	A
1,2-Dibromoethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
1,2-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
1,2-Dichloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
1,2-Dichloropropane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
1,3-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
1,3-Dichloropropene, Total	1.5U	U	ug/L	2.0	1.5	0.66	SW846 8260C	1	12/17/2022 19:51	TMP	A
1,4-Dichlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
2-Butanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	12/17/2022 19:51	TMP	A
2-Hexanone	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	12/17/2022 19:51	TMP	A
4-Methyl-2-Pentanone(MIBK)	3.8U	U	ug/L	5.0	3.8	1.6	SW846 8260C	1	12/17/2022 19:51	TMP	A
Acetone	6.9		ug/L	5.0	3.8	1.6	SW846 8260C	1	12/17/2022 19:51	TMP	A
Benzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Bromochloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Bromodichloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Bromoform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Bromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Carbon Disulfide	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Carbon Tetrachloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Chlorobenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Chlorodibromomethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Chloroethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Chloroform	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Chloromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
cis-1,2-Dichloroethene	1.3		ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Dichlorodifluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Ethylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Freon 113	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Iodomethane	0.87J	J,1	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Isopropylbenzene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Methyl acetate	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Methyl cyclohexane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Methyl t-Butyl Ether	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Methylene Chloride	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Styrene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Tetrachloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Toluene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Total Xylenes	2.3U	U	ug/L	3.0	2.3	1.0	SW846 8260C	1	12/17/2022 19:51	TMP	A
trans-1,2-Dichloroethene	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A

Results

Client Sample ID	MW5-5D-20221206	Collected	12/06/2022 10:00
Lab Sample ID	3277387001	Lab Receipt	12/07/2022 09:05

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Trichloroethene	1.6		ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Trichlorofluoromethane	0.75U	U	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A
Vinyl Chloride	0.48J	J	ug/L	1.0	0.75	0.33	SW846 8260C	1	12/17/2022 19:51	TMP	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	89.4%	81 – 118	12/17/2022 19:51	
4-Bromofluorobenzene	460-00-4	111%	85 – 114	12/17/2022 19:51	
Dibromofluoromethane	1868-53-7	87.6%	80 – 119	12/17/2022 19:51	
Toluene-d8	2037-26-5	100%	89 – 112	12/17/2022 19:51	

Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3277387001	MW5-5D-20221206	SW846 8260C	N/A	

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS

QC Batch

QC Batch	926598	Prep Method	N/A
Date	N/A	Analysis Method	SW846 8260C
Tech.			

Associated Samples

3277387001

Method Blank 3600966 (MB) Created on 12/17/2022 09:40 For QC Batch 926598

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
1,1,1-Trichloroethane	71-55-6	BLK	0.75U	ug/L	1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	BLK	0.75U	ug/L	1.0	U
1,1,2-Trichloroethane	79-00-5	BLK	0.75U	ug/L	1.0	U
1,1-Dichloroethane	75-34-3	BLK	0.75U	ug/L	1.0	U
1,1-Dichloroethene	75-35-4	BLK	0.75U	ug/L	1.0	U
1,2,3-Trichlorobenzene	87-61-6	BLK	0.75U	ug/L	1.0	U
1,2,4-Trichlorobenzene	120-82-1	BLK	0.75U	ug/L	1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	BLK	2.5U	ug/L	5.0	U
1,2-Dibromoethane	106-93-4	BLK	0.75U	ug/L	1.0	U
1,2-Dichlorobenzene	95-50-1	BLK	0.75U	ug/L	1.0	U
1,2-Dichloroethane	107-06-2	BLK	0.75U	ug/L	1.0	U
1,2-Dichloropropane	78-87-5	BLK	0.75U	ug/L	1.0	U
1,3-Dichlorobenzene	541-73-1	BLK	0.75U	ug/L	1.0	U
1,3-Dichloropropene, Total	542-75-6	BLK	1.5U	ug/L	2.0	U
1,4-Dichlorobenzene	106-46-7	BLK	0.75U	ug/L	1.0	U
2-Butanone	78-93-3	BLK	3.8U	ug/L	5.0	U
2-Hexanone	591-78-6	BLK	3.8U	ug/L	5.0	U
4-Methyl-2-Pentanone(MIBK)	108-10-1	BLK	3.8U	ug/L	5.0	U
Acetone	67-64-1	BLK	3.8U	ug/L	5.0	U
Benzene	71-43-2	BLK	0.75U	ug/L	1.0	U
Bromochloromethane	74-97-5	BLK	0.75U	ug/L	1.0	U
Bromodichloromethane	75-27-4	BLK	0.75U	ug/L	1.0	U
Bromoform	75-25-2	BLK	0.75U	ug/L	1.0	U
Bromomethane	74-83-9	BLK	0.75U	ug/L	1.0	U
Carbon Disulfide	75-15-0	BLK	0.75U	ug/L	1.0	U
Carbon Tetrachloride	56-23-5	BLK	0.75U	ug/L	1.0	U
Chlorobenzene	108-90-7	BLK	0.75U	ug/L	1.0	U
Chlorodibromomethane	124-48-1	BLK	0.75U	ug/L	1.0	U
Chloroethane	75-00-3	BLK	0.75U	ug/L	1.0	U
Chloroform	67-66-3	BLK	0.75U	ug/L	1.0	U
Chloromethane	74-87-3	BLK	0.75U	ug/L	1.0	U
cis-1,2-Dichloroethene	156-59-2	BLK	0.75U	ug/L	1.0	U
Cyclohexane	110-82-7	BLK	0.75U	ug/L	1.0	U
Dichlorodifluoromethane	75-71-8	BLK	0.75U	ug/L	1.0	U
Ethylbenzene	100-41-4	BLK	0.75U	ug/L	1.0	U
Freon 113	76-13-1	BLK	0.75U	ug/L	1.0	U
Iodomethane	74-88-4	BLK	1.1	ug/L	1.0	
Isopropylbenzene	98-82-8	BLK	0.75U	ug/L	1.0	U
Methyl acetate	79-20-9	BLK	0.75U	ug/L	1.0	U

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
Methyl cyclohexane	108-87-2	BLK	0.75U	ug/L	1.0	U
Methyl t-Butyl Ether	1634-04-4	BLK	0.75U	ug/L	1.0	U
Methylene Chloride	75-09-2	BLK	0.75U	ug/L	1.0	U
Styrene	100-42-5	BLK	0.75U	ug/L	1.0	U
Tetrachloroethene	127-18-4	BLK	0.75U	ug/L	1.0	U
Toluene	108-88-3	BLK	0.75U	ug/L	1.0	U
Total Xylenes	1330-20-7	BLK	2.3U	ug/L	3.0	U
trans-1,2-Dichloroethene	156-60-5	BLK	0.75U	ug/L	1.0	U
Trichloroethene	79-01-6	BLK	0.75U	ug/L	1.0	U
Trichlorofluoromethane	75-69-4	BLK	0.75U	ug/L	1.0	U
Vinyl Chloride	75-01-4	BLK	0.75U	ug/L	1.0	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	BLK	27.90	30	93	81 - 118	
4-Bromofluorobenzene	460-00-4	BLK	33.90	30	113	85 - 114	
Dibromofluoromethane	1868-53-7	BLK	26.90	30	89.7	80 - 119	
Toluene-d8	2037-26-5	BLK	30.30	30	101	89 - 112	

Lab Control Standard 3600967 (LCS) Created on 12/17/2022 09:40 For QC Batch 926598

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1-Trichloroethane	71-55-6	LCS	20.40		20	102	74 - 131		
1,1,2,2-Tetrachloroethane	79-34-5	LCS	19.30		20	96.7	71 - 121		
1,1,2-Trichloroethane	79-00-5	LCS	20.50		20	103	80 - 119		
1,1-Dichloroethane	75-34-3	LCS	19.90		20	99.5	77 - 125		
1,1-Dichloroethene	75-35-4	LCS	20.70		20	103	71 - 131		
1,2,3-Trichlorobenzene	87-61-6	LCS	18.40		20	92.1	69 - 129		
1,2,4-Trichlorobenzene	120-82-1	LCS	18.80		20	94	69 - 130		
1,2-Dibromo-3-chloropropane	96-12-8	LCS	16.90		20	84.5	62 - 128		
1,2-Dibromoethane	106-93-4	LCS	20		20	100	77 - 121		
1,2-Dichlorobenzene	95-50-1	LCS	18.30		20	91.7	80 - 119		
1,2-Dichloroethane	107-06-2	LCS	19.50		20	97.3	73 - 128		
1,2-Dichloropropane	78-87-5	LCS	19.70		20	98.4	78 - 122		
1,3-Dichlorobenzene	541-73-1	LCS	18.60		20	93.2	80 - 119		
1,3-Dichloropropene, Total	542-75-6	LCS	37.20		40	92.9	75 - 124		
1,4-Dichlorobenzene	106-46-7	LCS	19.50		20	97.7	79 - 118		
2-Butanone	78-93-3	LCS	96.10		100	96.1	56 - 143		
2-Hexanone	591-78-6	LCS	99		100	99	57 - 139		
4-Methyl-2-Pentanone(MIBK)	108-10-1	LCS	87.20		100	87.2	67 - 130		
Acetone	67-64-1	LCS	99.90		100	99.9	39 - 160		
Benzene	71-43-2	LCS	20.10		20	101	79 - 120		
Bromochloromethane	74-97-5	LCS	19.20		20	95.8	78 - 123		

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Bromodichloromethane	75-27-4	LCS	19.70		20	98.5	79 - 125		
Bromoform	75-25-2	LCS	18.50		20	92.7	66 - 130		
Bromomethane	74-83-9	LCS	17.10		20	85.5	53 - 141		
Carbon Disulfide	75-15-0	LCS	21.50		20	108	64 - 133		
Carbon Tetrachloride	56-23-5	LCS	17.80		20	89.1	72 - 136		
Chlorobenzene	108-90-7	LCS	19.10		20	95.6	82 - 118		
Chlorodibromomethane	124-48-1	LCS	19.80		20	99.1	74 - 126		
Chloroethane	75-00-3	LCS	22.20		20	111	60 - 138		
Chloroform	67-66-3	LCS	20.60		20	103	79 - 124		
Chloromethane	74-87-3	LCS	22.20		20	111	50 - 139		
cis-1,2-Dichloroethene	156-59-2	LCS	20.30		20	101	78 - 123		
Cyclohexane	110-82-7	LCS	19.90		20	99.6	71 - 130		
Dichlorodifluoromethane	75-71-8	LCS	25.80		20	129	32 - 152		
Ethylbenzene	100-41-4	LCS	17.90		20	89.4	79 - 121		
Freon 113	76-13-1	LCS	21.10		20	105	70 - 136		
Iodomethane	74-88-4	LCS	20.50		20	102	69 - 131		
Isopropylbenzene	98-82-8	LCS	20.30		20	102	72 - 131		
Methyl acetate	79-20-9	LCS	21.70		20	109	56 - 136		
Methyl cyclohexane	108-87-2	LCS	21.80		20	109	72 - 132		
Methyl t-Butyl Ether	1634-04-4	LCS	19.10		20	95.4	71 - 124		
Methylene Chloride	75-09-2	LCS	20.10		20	100	74 - 124		
Styrene	100-42-5	LCS	19		20	94.8	78 - 123		
Tetrachloroethene	127-18-4	LCS	18.40		20	92	74 - 129		
Toluene	108-88-3	LCS	21.40		20	107	80 - 121		
Total Xylenes	1330-20-7	LCS	55.70		60	92.9	79 - 121		
trans-1,2-Dichloroethene	156-60-5	LCS	20		20	99.8	75 - 124		
Trichloroethene	79-01-6	LCS	19.50		20	97.6	79 - 123		
Trichlorofluoromethane	75-69-4	LCS	22.60		20	113	65 - 141		
Vinyl Chloride	75-01-4	LCS	22.50		20	112	58 - 137		

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	LCS	26.70	30	89	81 - 118	
4-Bromofluorobenzene	460-00-4	LCS	31.80	30	106	85 - 114	
Dibromofluoromethane	1868-53-7	LCS	27.80	30	92.7	80 - 119	
Toluene-d8	2037-26-5	LCS	29	30	96.8	89 - 112	

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3277387001	MW5-5D-20221206	N/A	N/A	N/A		SW846 8260C	926598

3277387
Logged By: AXF
PM: SJB

ORDER - CHAIN OF CUSTODY

Please fill out this form LEGIBLY. Failure to complete all sections of this form may delay analysis.
By the use of this form the user acknowledges and agrees with the terms and conditions as specified on the company websites.
https://www.alsglobal.eu/media/en/pdf/general_terms_and_conditions.pdf

FOR LAB USE ONLY FOR LAB USE ONLY FOR LAB USE ONLY FOR LAB USE ONLY FOR LAB USE ON

CONTRACTOR ALS Environmental
301 Fulling Mill Rd, Suite A
Middletown, PA 17057
CONTACT INFORMATION TEL 717-944-5541
customer.support@alsglobal.com

PROJECT INFORMATION (See instructions chap. 3-7)
Project name: NFARS - Niagara Falls Air Reserve Base
Quote number:
Purchase order:
Sampler ID: AJS
Sample location: Niagara Falls, NY
Special archiving condition:
Express handling? No X Standard delivery (7-10 working days)
Yes ○ Express Due date
(Express surcharge, see instructions for completion)

CODE OR NAME OF ANALYSIS (See instruction chap. 9)

Analysis 1	Analysis 2	Analysis 3	Analysis 4	Analysis 5	Analysis 6	Analysis 7	Analysis 8	Analysis 9	Analysis 10	Analysis 11	Analysis 12
DOD 8260C											

Temp By: BLP | WO Temp (°C): 5° | Therm ID: S70 BLP

Receipt Info Completed By:
Cooler Custody Seal Intact Y N NA
Sample Custody Seal Intact Y N NA
Received on Ice Y N NA
Cooler & Samples Intact Y N
Correct Containers Provided Y N
Sample Label/COC Agree Y N
Adequate Sample Volumes Y N
CR6 Samples Filtered Y N NA
OP Samples Filtered Y N NA
VOA Headspace Present Y N NA
Voa Trip Blank Y N NA
NJ≤ 4 Days? Y N
Rad Screen (uCi)
Courier/Tracking #: 391740809737
SDWA Compliance Y N
PWSID
WV Containers 0-6°C Y N NA
NO C/G

CLIENT CONTACT AND REPORTING INFORMATION (See instruction chap. 1)
Company name: ARCADIS Code:
Contact name: Corey Averill Reg.No./Birth Date:
Address: 110 W. Fayette Suite 300, Syracuse, NY 13202
Contact phone: 315-671-9224
Email 1: corey.averill@arcadis.com
Certificate of Analysis: X E-mail Excel
Email 2: E-mail Excel
Email 3: E-mail Excel
Email 4: E-mail Excel
Email 5: E-mail Excel

INVOICE ADDRESS - if other than reporting adress (See instruction chap. 2)
Company name:
Contact name:
Change of contacts * No Yes * If yes, we will contact you
Address:
Email 1:
Invoice format: ◉ E-mail

ALS ID #	SAMPLE IDENTIFICATION (See instruction chap. 8, max. 50 characters)		MATRIX (a)	SAMPLING Date	SAMPLING Time	Containers count	(b)	REMARKS (See instructions chap.11-15, max. 50 characters)
	MW5-5D-20221206	X	GW	12/6/22	1000	~~3~~ 2	HCl	one vial broke in transit. -12/7/22 BLP

INFORMATION ABOUT ALS SAMPLING
Sampling protocol send electronically

CLIENT SIGNATURES (See instruction 16)
Client: Adam Svensson
Date and time of client's completion: 12/6/22 1330
Client's signature:

Sampling protocol identification | Sampling invoice | Sampling | Count | Price
Sampling protocol identification | Sampling invoice | Sampling | Count | Price

FOR LAB USE ONLY FOR LAB USE ONLY FOR LAB USE ONLY FOR LAB USE ONLY FOR LAB USE ONLY FOR LAB USE ONLY FOR LAB USE ONLY FOR LAB USE ONLY FOR LAB USE ONLY

Chain of Custody: Sealed / Broken / Not available
Received by (Lab): ALS Date and time: 12/7/22 9:05 Signature:
Submitted by: Date: Signature:
Committed by: Date: Signature:
Shipment condition:
Temperature on arrival:
Optional information: Hours over 8°C ○○○

a) **W** (Water), **DW** (Drinking water), **SW** (Surface water), **GW** (Ground water), **WW** (Waste water), **WW-G** (Waste water - grab), **WW-M** (Waste water - mixed), **IW** (Industrial water), **PW** (Swimming pool water), **WR** (Warm water), **SO** (Soil), **SL** (Sludge), **WA** (Waste), **SE** (Sediment), **BM** (Building material), **EM** (Emission), **IM** (Immision), **B** (Other solid material)
b) Please, see instructions chap. 17, if no warning symbol filled, the client declares the delivered sample(s) are not dangerous.

The price for the performed analysis is determined by the price offer of the provider, valid for the date that the order form is dispatched by the client. Prices stated in the price offer do not include value added tax, which will be charged by the provider in accordance with the applicable legislation. The client expressly declares that they are familiar with the provider's current price offer and agrees with the listed prices without reservation. By signing this order/transfer of samples, the client expressly confirms that they are familiar with the current wording of the General business and payment terms of the provider, published on the provider's web page www.alsglobal.cz, and that they agree to these terms without reservation and without reservation accepts them including agreement that in case of technical, capacity or other issues or obstacles, the provider is entitled to carry out the required tests with the subcontractor (provided that the contract does not stipulate otherwise).

Data Validation Report

Data Usability Summary Report

Northeast Group Optimized Remediation Contract
Niagara Falls Air Reserve Station, New York

2022 Sampling Events

January 21, 2023

Data Usability Summary Report

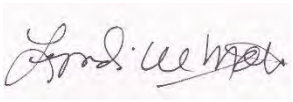
2022 Sampling Events

January 21, 2023

Prepared By:
SERES-Arcadis SB JV, LLC
10205 Westheimer Road, Suite 800
Houston
Texas 77042
Phone: 713 953 4800

Prepared For:
U.S. Army Corps of Engineers, Baltimore District
Air Force Civil Engineer Center,
Environmental Operations Division
(AFCEC/CZO)

Our Ref:
30036646



Lyndi Mott
Program Chemist

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Contents

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Table 1 Data Usability Summary Table

Appendices

Appendix A. LDC Data Validation Reports

Acronyms and Abbreviations

%D	percent difference
%R	percent recovery
ARS	Air Reserve Station
ALS	ALS Environmental, Middletown, PA
DoD	Department of Defense
DUSR	data usability summary report
DVR	data validation report
ELAP	Environmental Laboratory Accreditation Program
ICV/CCV	initial calibration verification/continuing calibration verification
LCS/LCSD	laboratory control sample/laboratory control sample duplicate
LDC	Laboratory Data Consultants
LOQ	limit of quantitation
MS/MSD	matrix spike/matrix spike duplicate
NELAP	National Environmental Laboratory Accreditation Program
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
QSM	Quality System Manual
RPD	relative percent difference
SDG	sample delivery group
SERES-Arcadis	SERES-Arcadis SB JV, LLC
USDOD	United States Department of Defense
USEPA	United States Environmental Protection Agency
VOC	volatile organic compounds

Executive Summary

This Data Usability Summary Report (DUSR) for Niagara Falls Air Reserve Station (ARS) located in New York for the 2022 sampling event describes the findings of the data review and validation and is provided to document the quality of the analytical data used for project decisions. A Data Usability Summary Table at the end of this DUSR lists the data that was qualified and the reason for qualification. Only the sample locations associated with this site and sampling event in the associated laboratory data packages and data validation reports are addressed in this report. The text below adds details where further discussion is warranted. The project-specific sampling and analysis, overall quality control (QC), and quality assurance protocols are presented in the Draft Final Quality Assurance Project Plan, Northeast Group Optimized Remediation Contract, Niagara Falls Air Reserve Station, New York (May 2022).

Samples were shipped to ALS Environmental (ALS), Middletown, Pennsylvania for analysis. ALS is a United States Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP) and National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory. The analytical sample delivery groups (SDGs) and associated LDC validation reports are listed in the table below. Summaries of the sample IDs and their associated laboratory IDs, SDGs, sampling dates, and analyses performed are provided in the laboratory reports and data validation reports (DVRs).

In accordance with the project QAPP data review requirements, Stage 2b, and 10 percent Stage 4 validation of the analytical data was performed by Laboratory Data Consultants (LDC), a third-party data validation firm. The validation was performed in accordance with the guidelines and control criteria specified in the following documents:

USDOD. Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.3 May 2019.

USDOD. DoD General Data Validation Guidelines, November 2019.

USDOD. DoD Data Validation Guidelines Module 1: Data Validation Procedures for Organic Analysis by GC/MS, May 2020.

Draft Final Quality Assurance Project Plan, Northeast Group Optimized Remediation Contract, Niagara Falls Air Reserve Station, New York (May 2022).

The laboratory data packages and validation reports that were reviewed for this DUSR are listed below.

Sample Delivery Groups (SDG)	Validation Report	Matrix	Parameters	Validation Level
AUC031/ 3251222	54589_RV1	Water	Volatile Organic Compounds (VOCs)	Stage 4: 4 field samples
AUC031/ 3250989	54589_RV1	Water	VOCs	Stage 2a: 24 field samples 2 field duplicates
AUC32/ 3272934	55592	Water	VOCs	Stage 2a: 24 field samples 1 field duplicate
AUC033/ 3272935	55592	Water	VOCs	Stage 4: 4 field samples

1 Precision

Precision is expressed as a relative percent difference (RPD) between the results of replicate sample analyses: sample duplicates, laboratory control sample duplicates (LCSDs), and matrix spike duplicates (MSDs). The RPD limit for LCSDs and MSDs is 20 percent. Field duplicates were collected at a frequency of 5 percent. Unless documented below or in the Data Usability Summary table, the RPD between the parent samples and associated field duplicates were within acceptable limits of 30 percent for water matrix.

Groundwater sample RW5-4-06092022 was identified as the parent sample to field duplicate sample DUP-06092022. 1,4-Dioxane was not detected in the samples. Therefore, the evaluation of the parent sample and field duplicate indicated precision was within criteria of 30 percent RPD.

Groundwater sample MW8-1-06102022 was identified as the parent sample to field duplicate sample DUP-06102022. 1,4-Dioxane was not detected in the samples. Therefore, the evaluation of the parent sample and field duplicate indicated precision was within criteria of 30 percent RPD.

Groundwater sample MW5-6-062922 was identified as the parent sample to field duplicate sample DUP-06292022-1. The evaluation of the parent sample and field duplicate indicated precision was within criteria of 30 percent RPD for volatile organic compounds (VOCs).

Groundwater sample P23-7D-062922 was identified as the parent sample to field duplicate sample DUP-06292022-2. The evaluation of the parent sample and field duplicate indicated precision was within criteria of 30 percent RPD for VOCs.

Groundwater sample RW5-1-20221107 was identified as the parent sample to field duplicate sample DUP-01-20221107. The evaluation of the parent sample and field duplicate indicated precision was within criteria of 30 percent RPD for VOCs.

2 Accuracy

Accuracy is demonstrated by recovery of target analytes from fortified blank and sample matrices, LCS/LCSDs and MS/MSDs, respectively. The recovery of target analytes from fortified samples is compared to DoD QSM 5.3 and QAPP acceptance criteria. In addition, Stage 4 validation of initial and continuing calibration results provide information on analytical accuracy. Unless documented below or in the Data Usability Summary table, the recoveries of LCS, MS/MSD, and surrogates, and calibration criteria, were within acceptable limits.

3 Representativeness

Representativeness is the degree to which sample data accurately and precisely represent site conditions and is dependent on sampling and analytical variability and the variability (or homogeneity) of the site itself. The use of the prescribed field and laboratory analytical methods with associated holding times and preservation requirements are intended to provide representative data.

All samples were collected and submitted for analysis in accordance with the procedures and sampling plan specified in the site QAPP and field SOPs. Analysis of samples was in accordance with the QAPP, DoD QSM, and laboratory SOPs. All analyses were performed within specified hold times except for the VOC analysis of a

field sample and field duplicate, and the diluted analysis for one compound that was over calibration range in the undiluted analysis as noted in the Data Usability Summary Table.

4 Sensitivity

Sensitivity describes the relationship between the laboratory quantitation limits and the project action limits. Reported laboratory quantitation limits are compared to the project detection limits to ensure that the analytical methods are capable of quantifying target analytes to a level that would satisfy DQOs.

The reported detection limits met the project required detection limits as listed in the QAPP.

5 Completeness

The completeness for this data set met the criteria of 90 percent. No results were qualified as potentially unusable. The field completeness is 100 percent; all planned sample locations were collected and submitted for analysis.

6 Conclusions

The overall assessment of the field samples, QA/QC data review by manual validation of the 2022 data set from Niagara Falls ARS met project requirements and completeness goals. Based upon the Stage 2a and Stage 4 data validation, all results are considered valid and usable.

Tables

Data Usability Summary Table

DATA USABILITY SUMMARY TABLE
Niagara Falls ARS; 2022 Sampling Events

Sample Locations	Compound	Qualifier	Reason
MW13-4D-062922 PW13-1-062922 PW13-4D-062922 MW13-5D-062922	Carbon disulfide Chloromethane	UJ	Initial calibration verification (ICV) %D >20%
PW3-3A-062922	Bromomethane	UJ	MS/MSD %R; low bias
RW5-4-20221107 DUP-01-20221107	All target VOCs	UJ non-detects J- detects	Hold time exceedance
RW5-2-20221107	Vinyl chloride	J-	Diluted analysis performed after hold time expired
MW10-10D-20221108	Chloroform	J+	Method blank contamination
SW10-8-20221108 MW10-4D-20221108 PW10-1-20221108 MW15-3-20221108	Iodomethane	UB	Method blank and trip blank contamination
MW10-3D-20221108	Iodomethane	J+	
MW5-6-20221107 RW5-1-20221107 SW99-10-20221108 SW10-7-20221108 PW10-1-20221108	Chloroform	UB	Trip Blank contamination
SW3-3-20221107 SW3-15-20221107 SW10-8-20221108 MW15-3-20221108	Chloroform	J+	
SW99-10-20221108	Iodomethane	J+	
SW3-2-20221107	Chloroform Iodomethane	J+	
Trip Blank	Chloroform Iodomethane	J+	Surrogate %R; high bias
SW10-5-20221108	Iodomethane	J+	Method blank and trip blank contamination
	Iodomethane	J-	MS %R; low bias
	Bromomethane Iodomethane	J	MS/MSD RPD
PW13-1-20221107 MW13-5D-20221107	Iodomethane	UB	Method blank and trip blank contamination
MW13-4D-20221107 PW13-4D-20221107	Chloroform Iodomethane	UB	

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however, the reported concentration is estimated due to non-conformances discovered during data validation.

J+ (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however, the reported concentration is estimated due to non-conformances

discovered during data validation. Result may be biased high.

J- (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however, the reported concentration is estimated due to non-conformances discovered during data validation. Result may be biased low.

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however, the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

UB (Non-detect): The compound or analyte was analyzed for and positively identified by the laboratory; however, the reported concentration is qualified as non-detect at the limit of quantitation (LOQ) due to blank contamination in an associated QA blank.

Appendix A

Data Validation Reports

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

ARCADIS U.S., Inc.
10 Friends Ln, Suite 200
Newtown, PA 18940
ATTN: Ms. Carmen Vidal
carmen.vidal@arcadis.com

September 19, 2022

SUBJECT: NE ORC Niagara Falls - Data Validation

Dear Ms. Vidal,

Enclosed are the final validation reports for the fraction listed below. These SDGs were received on August 3, 2021. Attachment 1 is a summary of the samples that were reviewed for the analysis.

LDC Project #54589 RV1:

SDG #	**Fraction:**
AUC031/3251222	Volatiles
3250989	

The data validation was performed under Level II & IV guidelines. The analysis was validated using the following documents, as applicable to the method:

- Final Remedial Action Quality Assurance Project Plan for Sites FT005, LF008, ST010, SS014, DS002, AND DS004, Niagara Falls Air Reserve Station, New York (August 2015)
- U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.3 (2019)
- U.S. Department of Defense (DoD) Data Validation Guidelines Module 1: Data Validation Procedure for Organic Analysis by GC/MS (May 2020)
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014; update VI, July 2018

Please feel free to contact us if you have any questions.

Sincerely,



Pei Geng
Project Manager/Senior Chemist
pgeng@lab-data.com

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

ARCADIS U.S., Inc.
10 Friends Ln, Suite 200
Newtown, PA 18940
ATTN: Ms. Carmen Vidal
carmen.vidal@arcadis.com

August 15, 2022

SUBJECT: NE ORC Niagara Falls - Data Validation

Dear Ms. Vidal,

Enclosed are the final validation reports for the fraction listed below. These SDGs were received on August 3, 2021. Attachment 1 is a summary of the samples that were reviewed for the analysis.

LDC Project #54589:

SDG #	**Fraction:**
AUC031/3251222 3250989	Volatiles

The data validation was performed under Level II guidelines. The analysis was validated using the following documents, as applicable to the method:

- Final Remedial Action Quality Assurance Project Plan for Sites FT005, LF008, ST010, SS014, DS002, AND DS004, Niagara Falls Air Reserve Station, New York (August 2015)
- U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.3 (2019)
- U.S. Department of Defense (DoD) Data Validation Guidelines Module 1: Data Validation Procedure for Organic Analysis by GC/MS (May 2020)
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014; update VI, July 2018

Please feel free to contact us if you have any questions.

Sincerely,



Pei Geng
Project Manager/Senior Chemist
pgeng@lab-data.com

Level II EDD

LDC# 54589 (Arcadis - Newtown, PA / NE ORC Niagara Falls)

Oracle PN# 30036646

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260C)																													
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	AUC031/3251222	08/03/22	08/24/22	4	0																												
B	3250989	08/03/22	08/24/22	28	0																												
Total	T/PG			32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32

Shaded cells indicate Level IV validation (all other cells are Level II validation). These sample counts do not include MS, MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NE ORC Niagara Falls

LDC Report Date: September 16, 2022

Parameters: Volatiles

Validation Level: Level II & IV

Laboratory: ALS Environmental, Middletown, PA

Sample Delivery Group (SDG): AUC031/3251222

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW13-4D-062922	3250989029	Water	06/29/22
PW13-1-062922	3250989030	Water	06/29/22
PW13-4D-062922	3250989031	Water	06/29/22
MW13-5D-062922	3250989032	Water	06/29/22

**Indicates sample underwent Level IV validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Remedial Action Quality Assurance Project Plan for Sites FT005, LF008, ST010, SS014, DS002, AND DS004, Niagara Falls Air Reserve Station, New York (August 2015), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.3 (2019), and the U.S. Department of Defense (DoD) Data Validation Guidelines Module 1: Data Validation Procedure for Organic Analysis by GC/MS (May 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260C

All sample results were subjected to Level II data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level IV data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The analyte was analyzed for and positively identified by the laboratory; however the analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

B (Blank contamination): The analyte was found in an associated blank as well as in the sample.

UB (Blank contamination): The analyte was found in an associated blank above one half the LOQ, as well as in the sample.

X (Exclusion of data recommended): The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Exclusion of the data is recommended.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

Instrument performance check data were not reviewed for Level II validation.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For analytes where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 15.0%.

In the case where the laboratory used a calibration curve to evaluate the analytes, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all analytes were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all analytes with the following exceptions:

Date	Analyte	%D	Associated Samples	Flag	A or P
07/11/22	Carbon disulfide Chloromethane	27 21	All samples in SDG AUC031/3251222	UJ (all non-detects) UJ (all non-detects)	A

Initial calibration data were not reviewed for Level II validation.

IV. Continuing Calibration

The percent differences (%D) were less than or equal to 20.0% for all analytes.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all analytes.

All of the continuing calibration relative response factors (RRF) were within validation criteria

Continuing calibration data were not reviewed for Level II validation.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample TRIP BLANK (from SDG 3250989) was identified as a trip blank. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Analyte	Concentration	Associated Samples
TRIP BLANK	06/30/22	Chloromethane	0.44 ug/L	All samples in SDG AUC031/3251222

Sample EQUIPBLANK-063022 (from SDG 3250989) was identified as an equipment blank. No contaminants were found.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

Internal standards data were not reviewed for Level II validation.

XII. Target Analyte Quantitation

All target analyte quantitations met validation criteria for samples which underwent Level IV validation. Raw data were not reviewed for Level II validation.

XIII. Target Analyte Identification

All target analyte identifications met validation criteria for samples which underwent Level IV validation. Raw data were not reviewed for Level II validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level IV validation. Raw data were not reviewed for Level II validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to ICV %D, data were qualified as estimated in two samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

NE ORC Niagara Falls
Volatiles - Data Qualification Summary - SDG AUC031/3251222

Sample	Analyte	Flag	A or P	Reason
MW13-4D-062922 PW13-1-062922 PW13-4D-062922 MW13-5D-062922	Carbon disulfide Chloromethane	UJ (all non-detects) UJ (all non-detects)	A	Initial calibration verification (%D)

NE ORC Niagara Falls
Volatiles - Laboratory Blank Data Qualification Summary - SDG AUC031/3251222

No Sample Data Qualified in this SDG

NE ORC Niagara Falls
Volatiles - Field Blank Data Qualification Summary - SDG AUC031/3251222

No Sample Data Qualified in this SDG

LDC #: 54589A1a

SDG #: AUC031/3251222

Laboratory: ALS Environmental, Middletown, PA

VALIDATION COMPLETENESS WORKSHEET

Level II / IV

Date: 8/11/22

Page: 1 of 1

Reviewer: O

2nd Reviewer: M

METHOD: GC/MS Volatiles (EPA SW-846 Method 8260C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/SW	RSD ≤ 15% or r² ≥ 0.990 ICV ≤ ±20%
IV.	Continuing calibration / 24hrs	A	CCV ≤ ±20/50%
V.	Laboratory Blanks	A	
VI.	Field blanks	SW	EQUIPBLANK-062022, TRIPBLANK (3250989.
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	MS
IX.	Laboratory control samples	A	
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Target analyte quantitation	A	
XIII.	Target analyte identification	A	
XIV.	System performance	A	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW13-4D-062922	3250989029	Water	06/29/22
2	PW13-1-062922	3250989030	Water	06/29/22
3	PW13-4D-062922	3250989031	Water	06/29/22
4	MW13-5D-062922	3250989032	Water	06/29/22
5				
6				
7				
8				
9				

Notes:

LDC #: 54589A/01 **VALIDATION FINDINGS CHECKLIST** Page: 1 of 2
Reviewer: 9

Method: Volatiles (EPA SW 846 Method 8260C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12-hour clock criteria?	✓			
III. Initial calibration and Initial Calibration Verification				
Did the laboratory perform a 5-point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ ~~20~~ 15% and relative response factors (RRF) within method criteria?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓			
Was an initial calibration verification (ICV) standard analyzed after each initial calibration for each instrument?	✓			
Were all ICV percent differences (%D) ≤ ~~30~~ 20%?		✓		
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) within method criteria?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?	✓			
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VIII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?		✓		

Validation Area	Yes	No	NA	Findings/Comments
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Did the laboratory LOQs/RLs meet the QAPP LOQs/RLs?	✓			
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl chloride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1. Ethylene Dibromide

LDC #: 54589A/a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Reviewer: 9

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?

Y (N) N/A Were all %D within the validation criteria of ≤20 %D?

#	Date	Standard ID	Compound	Finding %D (Limit: <20.0%)	Associated Samples	Qualifications
	7/11/22	352745T	4	21*	All (NB)	J+/UJ/*
			A	21		J

LDC #: 54589A1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: 9

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

(Y) N N/A Were field blanks identified in this SDG?
(Y) N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 6/30/22
Field blank type: (circle one) Field Blank / Rinsate / (Trip Blank) / Other: _____ Associated Samples: All

Compound	Blank ID	Sample Identification								
TRIP BLANK										
~~Methylene chloride~~ A	0.44									
Acetone										
~~Chloroform~~										

Blank units: _____ **Associated sample units:** _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								
Methylene chloride										
Acetone										
Chloroform										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 54588A/01

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: Q

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

RRF = $(A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs
X = Mean of the RRFs

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	IGA2	7/11/22	QQQ (1st internal standard)	0.32941	0.32941	0.324390	0.32439	5.32388	5.324
			DD (2nd internal standard)	1.17280	1.17280	1.17310T0	1.17310T	5.T664	5.T66
			HHH (3rd internal standard)	1.35876	1.358T	1.446200	1.4462	9.8236	9.824
			(4th internal standard)						
2			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						
3			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						
4			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results

LDC #: 54289A9

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: 9

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	1/200/125/A	7/12/22	QQQ (1st internal standard)	0324390	0.3295	0.3295	1.6	1.6
			DD (2nd internal standard)	1.731070	1.5636	1.5636	9.7	9.7
			HHH (3rd internal standard)	1.446200	1.3221	1.3221	8.6	8.6
			(4th internal standard)					
2			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
3			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 54589A/1a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: Q

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane	30.00	26.8314	89.4	89.4	
1,2-Dichloroethane-d4	↓	30.7720	103	103	
Toluene-d8	↓	29.1158	97.1	97.1	
Bromofluorobenzene	↓	31.5162	105	105	

Sample ID: ______

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID: ______

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID: ______

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID: ______

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 54589A1a

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: Q

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration; SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: # 75284 1

Compound	Spike Added (MGL)		Spiked Sample Concentration (MGL)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	20	NA	21.5	NA	108	108				
Trichloroethene	↓	↓	18.7	↓	93.7	93.7				
Benzene	↓	↓	19.7	↓	98.5	98.5				
Toluene	↓	↓	18.6	↓	92.9	92.9				
Chlorobenzene	↓	↓	17.4	↓	87.1	87.1				

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 54888A/07

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: 9

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. 1, QQQ

Conc. = $\frac{(193499)(20.0)(1)}{(176480)(0.34390)(\quad)(\quad)}$

= 10.1 µg/L

#	Sample ID	Compound	Reported Concentration (µg/L)	Calculated Concentration ( )	Qualification
	1	QQQ	10.1		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NE ORC Niagara Falls

LDC Report Date: August 12, 2022

Parameters: Volatiles

Validation Level: Level II

Laboratory: ALS Environmental, Middletown, PA

Sample Delivery Group (SDG): 3250989

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW3-3DA-062922	3250989001	Water	06/29/22
MW3-4DA-062922	3250989002	Water	06/29/22
PW3-3A-062922	3250989003	Water	06/29/22
P23-6D-062922	3250989004	Water	06/29/22
P23-7D-062922	3250989005	Water	06/29/22
P23-8D-062922	3250989006	Water	06/29/22
MW5-1DA-062922	3250989007	Water	06/29/22
DUP-062922-2	3250989008	Water	06/29/22
MW5-5D-062922	3250989009	Water	06/29/22
MW5-6-062922	3250989010	Water	06/29/22
DUP-062922-1	3250989011	Water	06/29/22
RW5-1-062922	3250989012	Water	06/29/22
RW5-2-062922	3250989013	Water	06/29/22
RW5-4-062922	3250989014	Water	06/29/22
MW8-11D-062922	3250989015	Water	06/29/22
EQUIPBLANK-063022	3250989016	Water	06/30/22
MW10-3-063022	3250989017	Water	06/30/22
MW10-7-063022	3250989018	Water	06/30/22
PW10-1-063022	3250989019	Water	06/30/22
PW10-2-063022	3250989020	Water	06/30/22
PZ10-7-063022	3250989021	Water	06/30/22
SW3-15-062922	3250989022	Water	06/29/22
SW3-3-062922	3250989023	Water	06/29/22
SW3-2-062922	3250989024	Water	06/29/22
SW10-7-063022	3250989025	Water	06/30/22
SW10-8-063022	3250989026	Water	06/30/22

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SW99-10-063022	3250989027	Water	06/30/22
TRIP BLANK	3250989028	Water	06/30/22
PW3-3A-062922MS	3250989003MS	Water	06/29/22
PW3-3A-062922MSD	3250989003MSD	Water	06/29/22
MW5-1DA-062922MS	3250989007MS	Water	06/29/22
MW5-1DA-062922MSD	3250989007MSD	Water	06/29/22

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Remedial Action Quality Assurance Project Plan for Sites FT005, LF008, ST010, SS014, DS002, AND DS004, Niagara Falls Air Reserve Station, New York (August 2015), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.3 (2019), and the U.S. Department of Defense (DoD) Data Validation Guidelines Module 1: Data Validation Procedure for Organic Analysis by GC/MS (May 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260C

All sample results were subjected to Level II data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The analyte was analyzed for and positively identified by the laboratory; however the analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

B (Blank contamination): The analyte was found in an associated blank as well as in the sample.

UB (Blank contamination): The analyte was found in an associated blank above one half the LOQ, as well as in the sample.

X (Exclusion of data recommended): The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Exclusion of the data is recommended.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level II validation.

III. Initial Calibration and Initial Calibration Verification

Initial calibration data were not reviewed for Level II validation.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level II validation.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample TRIP BLANK was identified as a trip blank. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Analyte	Concentration	Associated Samples
TRIP BLANK	06/30/22	Chloromethane	0.44 ug/L	MW3-3DA-062922 MW3-4DA-062922 PW3-3A-062922 P23-6D-062922 P23-7D-062922 P23-8D-062922 MW5-1DA-062922 DUP-062922-2 MW5-5D-062922 MW5-6-062922 DUP-062922-1 RW5-1-062922 RW5-2-062922 RW5-4-062922 MW8-11D-062922 EQUIPBLANK-063022 MW10-3-063022 MW10-7-063022 PW10-1-063022 PW10-2-063022 PZ10-7-063022 SW3-15-062922 SW3-3-062922 SW3-2-062922 SW10-7-063022 SW10-8-063022 SW99-10-063022

Sample EQUIPBLANK-063022 was identified as an equipment blank. No contaminants were found.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
PW3-3A-062922MS/MSD (PW3-3A-062922)	Bromomethane	48.8 (53-141)	51.9 (53-141)	UJ (all non-detects)	A

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
PW3-3A-062922MS/MSD (PW3-3A-062922)	Iodomethane	143 (69-131)	160 (69-131)	NA	-

Relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	RPD (Limits)	Flag	A or P
PW3-3A-062922MS/MSD (PW3-3A-062922)	2-Butanone	20.4 (≤20)	NA	-
MW5-1DA-062922MS/MSD (MW5-1DA-062922)	2-Butanone Bromomethane	26.70 (≤20) 25.10 (≤20)	NA	-

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples P23-7D-062922 and DUP-062922-2 and samples MW5-6-062922 and DUP-062922-1 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	P23-7D-062922	DUP-062922-2			
cis-1,2-Dichloroethene	1.9	1.9	0 (≤30)	-	-

Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	MW5-6-062922	DUP-062922-1			
cis-1,2-Dichloroethene	1.6	1.8	12 (≤30)	-	-
Toluene	0.54	0.63	15 (≤30)	-	-
Trichloroethene	0.60	0.56	7 (≤30)	-	-
Vinyl chloride	0.42	0.45	7 (≤30)	-	-

XI. Internal Standards

Internal standards data were not reviewed for Level II validation.

XII. Target Analyte Quantitation

Raw data were not reviewed for Level II validation.

XIII. Target Analyte Identification

Raw data were not reviewed for Level II validation.

XIV. System Performance

Raw data were not reviewed for Level II validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to MS/MSD %R, data were qualified as estimated in one sample.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

NE ORC Niagara Falls
Volatiles - Data Qualification Summary - SDG 3250989

Sample	Analyte	Flag	A or P	Reason
PW3-3A-062922	Bromomethane	UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)

NE ORC Niagara Falls
Volatiles - Laboratory Blank Data Qualification Summary - SDG 3250989

No Sample Data Qualified in this SDG

NE ORC Niagara Falls
Volatiles - Field Blank Data Qualification Summary - SDG 3250989

No Sample Data Qualified in this SDG

LDC #: 54589B1a **VALIDATION COMPLETENESS WORKSHEET** Date: 7/11/22
SDG #: 3250989 Level II Page: 1 of 2
Laboratory: ALS Environmental, Middletown, PA Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW-846 Method 8260C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N/N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks	A	
VI.	Field blanks	SW	EB=16. TB=28
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	SW	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	SW	5=5+8. 10+11
XI.	Internal standards	N	
XII.	Target analyte quantitation	N	
XIII.	Target analyte identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW3-3DA-062922	3250989001	Water	06/29/22
2	MW3-4DA-062922	3250989002	Water	06/29/22
3	PW3-3A-062922	3250989003	Water	06/29/22
4	P23-6D-062922	3250989004	Water	06/29/22
5	P23-7D-062922 D	3250989005	Water	06/29/22
6	P23-8D-062922	3250989006	Water	06/29/22
7	MW5-1DA-062922	3250989007	Water	06/29/22
8	DUP-062922-2 D	3250989008	Water	06/29/22
9	MW5-5D-062922	3250989009	Water	06/29/22
10	MW5-6-062922 D1	3250989010	Water	06/29/22
11	DUP-062922-1 D1	3250989011	Water	06/29/22
12	RW5-1-062922	3250989012	Water	06/29/22
13	RW5-2-062922	3250989013	Water	06/29/22
14	RW5-4-062922	3250989014	Water	06/29/22

LDC #: 54589B1a **VALIDATION COMPLETENESS WORKSHEET** Date: 8/11/22
SDG #: 3250989 Level II Page: 2 of 2
Laboratory: ALS Environmental, Middletown, PA Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW-846 Method 8260C)

	Client ID	Lab ID	Matrix	Date
15	MW8-11D-062922	3250989015	Water	06/29/22
16	EQUIPBLANK-063022	3250989016	Water	06/30/22
17	MW10-3-063022	3250989017	Water	06/30/22
18	MW10-7-063022	3250989018	Water	06/30/22
19	PW10-1-063022	3250989019	Water	06/30/22
20	PW10-2-063022	3250989020	Water	06/30/22
21	PZ10-7-063022	3250989021	Water	06/30/22
22	SW3-15-062922	3250989022	Water	06/29/22
23	SW3-3-062922	3250989023	Water	06/29/22
24	SW3-2-062922	3250989024	Water	06/29/22
25	SW10-7-063022	3250989025	Water	06/30/22
26	SW10-8-063022	3250989026	Water	06/30/22
27	SW99-10-063022	3250989027	Water	06/30/22
28	TRIP BLANK	3250989028	Water	06/30/22
29	PW3-3A-062922MS	3250989003MS	Water	06/29/22
30	PW3-3A-062922MSD	3250989003MSD	Water	06/29/22
31	MW5-1DA-062922MS	3250989007MS	Water	06/29/22
32	MW5-1DA-062922MSD	3250989007MSD	Water	06/29/22
33				
34				
35				

Notes:

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl chloride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1. Ethylene Dibromide

LDC #: 35397B1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Sampling date: 4/30/22

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: _____ Associated Samples: 1-27

Compound	Blank ID	Sample Identification								
	28									
~~Methylene chloride~~ A	0.44									
~~Acetone~~										
~~Chloroform~~										

Blank units: _____ **Associated sample units:** _____

Sampling date: _____

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								
Methylene chloride										
Acetone										
Chloroform										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 54589E19

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: [illegible]

METHOD : GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

(Y) N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y (N) N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		29/30	M	( )	( )	20.4 (≤ 18)	3 (ND)	J/det3/A
			B	48.8 (53-141)	51.7 (53-141)	( )		J/UJ/A
			NNNN	143 (69-131)	160 (69-131)	( )		J+det3/A
				( )	( )	( )		
				( )	( )	( )		
		31/32	M	( )	( )	26.70 (≤ 20)	7 (ND)	J/det3/A
			B	( )	( )	25.10 (✓)		↓
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		

METHOD: GCMS VOA (EPA SW 846 Method 8260B)

Y N NA Were field duplicate pairs identified in this SDG?

Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD (≤ 30 %)	Qualifications (Parent only)
	5	8		
QQQ	1.9	1.9	0	

Compound	Concentration (ug/L)		RPD (≤ 30 %)	Qualifications (Parent only)
	10	11		
QQQ	1.6	1.8	12	
CC	0.54	0.63	15	
S	0.60	0.56	7	
C	0.42	0.45	7	

NQ = One or both results were < 5x the LOQ, therefore no data were qualified.

V:\FIELD DUPLICATES\Field Duplicates\FD_Organics\2022\54589B1_Arcadis_Niagara.wpd

LDC Report# 54589B1a

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NE ORC Niagara Falls

LDC Report Date: August 12, 2022

Parameters: Volatiles

Validation Level: Level II

Laboratory: ALS Environmental, Middletown, PA

Sample Delivery Group (SDG): 3250989

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW3-3DA-062922	3250989001	Water	06/29/22
MW3-4DA-062922	3250989002	Water	06/29/22
PW3-3A-062922	3250989003	Water	06/29/22
P23-6D-062922	3250989004	Water	06/29/22
P23-7D-062922	3250989005	Water	06/29/22
P23-8D-062922	3250989006	Water	06/29/22
MW5-1DA-062922	3250989007	Water	06/29/22
DUP-062922-2	3250989008	Water	06/29/22
MW5-5D-062922	3250989009	Water	06/29/22
MW5-6-062922	3250989010	Water	06/29/22
DUP-062922-1	3250989011	Water	06/29/22
RW5-1-062922	3250989012	Water	06/29/22
RW5-2-062922	3250989013	Water	06/29/22
RW5-4-062922	3250989014	Water	06/29/22
MW8-11D-062922	3250989015	Water	06/29/22
EQUIPBLANK-063022	3250989016	Water	06/30/22
MW10-3-063022	3250989017	Water	06/30/22
MW10-7-063022	3250989018	Water	06/30/22
PW10-1-063022	3250989019	Water	06/30/22
PW10-2-063022	3250989020	Water	06/30/22
PZ10-7-063022	3250989021	Water	06/30/22
SW3-15-062922	3250989022	Water	06/29/22
SW3-3-062922	3250989023	Water	06/29/22
SW3-2-062922	3250989024	Water	06/29/22
SW10-7-063022	3250989025	Water	06/30/22
SW10-8-063022	3250989026	Water	06/30/22

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SW99-10-063022	3250989027	Water	06/30/22
TRIP BLANK	3250989028	Water	06/30/22
PW3-3A-062922MS	3250989003MS	Water	06/29/22
PW3-3A-062922MSD	3250989003MSD	Water	06/29/22
MW5-1DA-062922MS	3250989007MS	Water	06/29/22
MW5-1DA-062922MSD	3250989007MSD	Water	06/29/22

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Remedial Action Quality Assurance Project Plan for Sites FT005, LF008, ST010, SS014, DS002, AND DS004, Niagara Falls Air Reserve Station, New York (August 2015), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.3 (2019), and the U.S. Department of Defense (DoD) Data Validation Guidelines Module 1: Data Validation Procedure for Organic Analysis by GC/MS (May 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260C

All sample results were subjected to Level II data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The analyte was analyzed for and positively identified by the laboratory; however the analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

B (Blank contamination): The analyte was found in an associated blank as well as in the sample.

UB (Blank contamination): The analyte was found in an associated blank above one half the LOQ, as well as in the sample.

X (Exclusion of data recommended): The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Exclusion of the data is recommended.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level II validation.

III. Initial Calibration and Initial Calibration Verification

Initial calibration data were not reviewed for Level II validation.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level II validation.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample TRIP BLANK was identified as a trip blank. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Analyte	Concentration	Associated Samples
TRIP BLANK	06/30/22	Chloromethane	0.44 ug/L	MW3-3DA-062922 MW3-4DA-062922 PW3-3A-062922 P23-6D-062922 P23-7D-062922 P23-8D-062922 MW5-1DA-062922 DUP-062922-2 MW5-5D-062922 MW5-6-062922 DUP-062922-1 RW5-1-062922 RW5-2-062922 RW5-4-062922 MW8-11D-062922 EQUIPBLANK-063022 MW10-3-063022 MW10-7-063022 PW10-1-063022 PW10-2-063022 PZ10-7-063022 SW3-15-062922 SW3-3-062922 SW3-2-062922 SW10-7-063022 SW10-8-063022 SW99-10-063022

Sample EQUIPBLANK-063022 was identified as an equipment blank. No contaminants were found.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
PW3-3A-062922MS/MSD (PW3-3A-062922)	Bromomethane	48.8 (53-141)	51.9 (53-141)	UJ (all non-detects)	A

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
PW3-3A-062922MS/MSD (PW3-3A-062922)	Iodomethane	143 (69-131)	160 (69-131)	NA	-

Relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	RPD (Limits)	Flag	A or P
PW3-3A-062922MS/MSD (PW3-3A-062922)	2-Butanone	20.4 (≤20)	NA	-
MW5-1DA-062922MS/MSD (MW5-1DA-062922)	2-Butanone Bromomethane	26.70 (≤20) 25.10 (≤20)	NA	-

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples P23-7D-062922 and DUP-062922-2 and samples MW5-6-062922 and DUP-062922-1 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	P23-7D-062922	DUP-062922-2			
cis-1,2-Dichloroethene	1.9	1.9	0 (≤30)	-	-

Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	MW5-6-062922	DUP-062922-1			
cis-1,2-Dichloroethene	1.6	1.8	12 (≤30)	-	-
Toluene	0.54	0.63	15 (≤30)	-	-
Trichloroethene	0.60	0.56	7 (≤30)	-	-
Vinyl chloride	0.42	0.45	7 (≤30)	-	-

XI. Internal Standards

Internal standards data were not reviewed for Level II validation.

XII. Target Analyte Quantitation

Raw data were not reviewed for Level II validation.

XIII. Target Analyte Identification

Raw data were not reviewed for Level II validation.

XIV. System Performance

Raw data were not reviewed for Level II validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to MS/MSD %R, data were qualified as estimated in one sample.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

NE ORC Niagara Falls
Volatiles - Data Qualification Summary - SDG 3250989

Sample	Analyte	Flag	A or P	Reason
PW3-3A-062922	Bromomethane	UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)

NE ORC Niagara Falls
Volatiles - Laboratory Blank Data Qualification Summary - SDG 3250989

No Sample Data Qualified in this SDG

NE ORC Niagara Falls
Volatiles - Field Blank Data Qualification Summary - SDG 3250989

No Sample Data Qualified in this SDG

LDC #: 54589B1a **VALIDATION COMPLETENESS WORKSHEET** Date: 7/11/22
SDG #: 3250989 Level II Page: 1 of 2
Laboratory: ALS Environmental, Middletown, PA Reviewer: Q
2nd Reviewer: M

METHOD: GC/MS Volatiles (EPA SW-846 Method 8260C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N/N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks	A	
VI.	Field blanks	SW	EB=16. TB=28
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	SW	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	SW	5=5+8. 10+11
XI.	Internal standards	N	
XII.	Target analyte quantitation	N	
XIII.	Target analyte identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	MW3-3DA-062922	3250989001	Water	06/29/22
2	MW3-4DA-062922	3250989002	Water	06/29/22
3	PW3-3A-062922	3250989003	Water	06/29/22
4	P23-6D-062922	3250989004	Water	06/29/22
5	P23-7D-062922 D	3250989005	Water	06/29/22
6	P23-8D-062922	3250989006	Water	06/29/22
7	MW5-1DA-062922	3250989007	Water	06/29/22
8	DUP-062922-2 D	3250989008	Water	06/29/22
9	MW5-5D-062922	3250989009	Water	06/29/22
10	MW5-6-062922 D1	3250989010	Water	06/29/22
11	DUP-062922-1 D1	3250989011	Water	06/29/22
12	RW5-1-062922	3250989012	Water	06/29/22
13	RW5-2-062922	3250989013	Water	06/29/22
14	RW5-4-062922	3250989014	Water	06/29/22

LDC #: 54589B1a **VALIDATION COMPLETENESS WORKSHEET** Date: 8/11/22
SDG #: 3250989 Level II Page: 2 of 2
Laboratory: ALS Environmental, Middletown, PA Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW-846 Method 8260C)

	Client ID	Lab ID	Matrix	Date
15	MW8-11D-062922	3250989015	Water	06/29/22
16	EQUIPBLANK-063022	3250989016	Water	06/30/22
17	MW10-3-063022	3250989017	Water	06/30/22
18	MW10-7-063022	3250989018	Water	06/30/22
19	PW10-1-063022	3250989019	Water	06/30/22
20	PW10-2-063022	3250989020	Water	06/30/22
21	PZ10-7-063022	3250989021	Water	06/30/22
22	SW3-15-062922	3250989022	Water	06/29/22
23	SW3-3-062922	3250989023	Water	06/29/22
24	SW3-2-062922	3250989024	Water	06/29/22
25	SW10-7-063022	3250989025	Water	06/30/22
26	SW10-8-063022	3250989026	Water	06/30/22
27	SW99-10-063022	3250989027	Water	06/30/22
28	TRIP BLANK	3250989028	Water	06/30/22
29	PW3-3A-062922MS	3250989003MS	Water	06/29/22
30	PW3-3A-062922MSD	3250989003MSD	Water	06/29/22
31	MW5-1DA-062922MS	3250989007MS	Water	06/29/22
32	MW5-1DA-062922MSD	3250989007MSD	Water	06/29/22
33				
34				
35				

Notes:

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl chloride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1. Ethylene Dibromide

LDC #: 34587B1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: 9

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Sampling date: 4/30/22

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: _____ Associated Samples: 1-27

Compound	Blank ID	Sample Identification								
	28									
~~Methylene chloride~~ A	0.44									
Acetone										
~~Chloroform~~										

Blank units: _____ **Associated sample units:** _____

Sampling date: _____

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								
Methylene chloride										
Acetone										
Chloroform										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 54589E19

Page: 1 of 1
Reviewer: [signature]

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

METHOD : GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

(Y) N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y (N) ~~N/A~~ Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		29/30	M	( )	( )	20.4 (≤ 20)	3 (ND)	J dets/A
			B	48.8 (53-141)	51.9 (53-141)	( )		J/UJ/A
			NNNN	143 (69-131)	160 (69-131)	( )		J+dets/A
				( )	( )	( )		
				( )	( )	( )		
		31/32	M	( )	( )	26.70 (≤ 20)	7 (ND)	J dets/A
			B	( )	( )	25.10 (✓)		↓
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		

LDC#: 54468C1 **VALIDATION FINDINGS WORKSHEET** Page: 1 of 1
Field Duplicates Reviewer: PG

METHOD: GCMS VOA (EPA SW 846 Method 8260B)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD (≤ 30 %)	Qualifications (Parent only)
	5	8		
QQQ	1.9	1.9	0	

Compound	Concentration (ug/L)		RPD (≤ 30 %)	Qualifications (Parent only)
	10	11		
QQQ	1.6	1.8	12	
CC	0.54	0.63	15	
S	0.60	0.56	7	
C	0.42	0.45	7	

NQ = One or both results were < 5x the LOQ, therefore no data were qualified.

V:\FIELD DUPLICATES\Field Duplicates\FD_Organics\2022\54589B1_Arcadis_Niagara.wpd

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

ARCADIS U.S., Inc.
10 Friends Ln, Suite 200
Newtown, PA 18940
ATTN: Ms. Carmen Vidal
carmen.vidal@arcadis.com

January 5, 2023

SUBJECT: NE ORC Niagara Falls - Data Validation

Dear Ms. Vidal,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on December 7, 2022. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #55592:

SDG #	**Fraction**
AUC32/3272934 AUC33/3272935	Volatiles

The data validation was performed under Level II guidelines. The analysis was validated using the following documents, as applicable to each method:

- Final Remedial Action Quality Assurance Project Plan for Sites FT005, LF008, ST010, SS014, DS002, AND DS004, Niagara Falls Air Reserve Station, New York (August 2015)
- U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.3 (2019)
- U.S. Department of Defense (DoD) Data Validation Guidelines Module 1: Data Validation Procedure for Organic Analysis by GC/MS (May 2020)
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014; update VI, July 2018

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
pgeng@lab-data.com
Project Manager/Senior Chemist

Level II/IV (client select) EDD **LDC# 55592 (Arcadis - Newtown, PA / NE ORC Niagara Falls)** **Oracle PN# 30036646**

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260C)																													
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	AUC32/3272934	12/07/22	12/29/22	24	0																												
B	AUC33/3272935	12/07/22	12/29/22	4	0																												
Total	TR/PG			28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28

Shaded cells indicate Level IV validation (all other cells are Level II validation). These sample counts do not include MS, MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NE ORC Niagara Falls

LDC Report Date: December 29, 2022

Parameters: Volatiles

Validation Level: Level II

Laboratory: ALS Environmental, Middletown, PA

Sample Delivery Group (SDG): AUC032/3272934

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
RW5-4-20221107	3272934001	Water	11/07/22
RW5-2-20221107	3272934002	Water	11/07/22
MW5-6-20221107	3272934003	Water	11/07/22
MW5-1DA-20221107	3272934004	Water	11/07/22
RW5-1-20221107	3272934005	Water	11/07/22
Dup-01-20221107	3272934006	Water	11/07/22
MW1-1DA-20221107	3272934009	Water	11/07/22
SW3-3-20221107	3272934010	Water	11/07/22
SW3-15-20221107	3272934011	Water	11/07/22
SW3-2-20221107	3272934012	Water	11/07/22
SW99-10-20221108	3272934013	Water	11/08/22
SW10-7-20221108	3272934014	Water	11/08/22
SW10-8-20221108	3272934015	Water	11/08/22
SW10-5-20221108	3272934016	Water	11/08/22
MW10-1DA-20221108	3272934017	Water	11/08/22
PW10-2-20221108	3272934018	Water	11/08/22
MW10-10D-20221108	3272934019	Water	11/08/22
MW10-4D-20221108	3272934020	Water	11/08/22
MW10-4E-20221108	3272934021	Water	11/08/22
PW10-1-20221108	3272934022	Water	11/08/22
MW10-9D-20221108	3272934023	Water	11/08/22
MW10-3D-20221108	3272934024	Water	11/08/22
Trip Blank	3272934026	Water	11/08/22
MW15-3-20221108	3272934027	Water	11/08/22
RW5-1-20221107MS	3272934005MS	Water	11/07/22
RW5-1-20221107MSD	3272934005MSD	Water	11/07/22

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SW10-5-20221108MS	3272934016MS	Water	11/08/22
SW10-5-20221108MSD	3272934016MSD	Water	11/08/22

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Remedial Action Quality Assurance Project Plan for Sites FT005, LF008, ST010, SS014, DS002, AND DS004, Niagara Falls Air Reserve Station, New York (August 2015), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.3 (2019), and the U.S. Department of Defense (DoD) Data Validation Guidelines Module 1: Data Validation Procedure for Organic Analysis by GC/MS (May 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260C

All sample results were subjected to Level II data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

B (Blank contamination): The compound or analyte was found in an associated blank as well as in the sample.

UB (Blank contamination): The compound or analyte was found in an associated blank above one half the LOQ, as well as in the sample.

X (Exclusion of data recommended): The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Exclusion of the data is recommended.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Days From Sample Collection Until Analysis	Required Holding Time (in Days) From Sample Collection Until Analysis	Flag	A or P
RW5-4-20221107 Dup-01-20221107	All analytes	16	14	J- (all detects) UJ (all non-detects)	P
RW5-2-20221107	Vinyl chloride	16	14	J- (all detects)	P

II. GC/MS Instrument Performance Check

Instrument performance check data were not reviewed for Level II validation.

III. Initial Calibration and Initial Calibration Verification

Initial calibration data were not reviewed for Level II validation.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Level II validation.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analysis Date	Analyte	Concentration	Associated Samples
3589261MB	11/19/22	Carbon disulfide Iodomethane	0.37 ug/L 0.66 ug/L	SW10-8-20221108 SW10-5-20221108 MW10-1DA-20221108 PW10-2-20221108 MW10-4D-20221108 MW10-4E-20221108 PW10-1-20221108 MW10-9D-20221108 MW10-3D-20221108 Trip Blank MW15-3-20221108
3589558MB	11/21/19	Chloroform	0.49 ug/L	MW10-10D-20221108

Sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SW10-8-20221108	Iodomethane	0.54 ug/L	0.75UB ug/L
SW10-5-20221108	Iodomethane	0.78 ug/L	0.78JB+ ug/L
MW10-4D-20221108	Iodomethane	0.49 ug/L	0.75UB ug/L
PW10-1-20221108	Iodomethane	0.71 ug/L	0.75UB ug/L
MW10-3D-20221108	Iodomethane	0.96 ug/L	0.96JB+ ug/L
Trip Blank	Iodomethane	0.59 ug/L	0.75UB ug/L
MW15-3-20221108	Iodomethane	0.64 ug/L	0.75UB ug/L
MW10-10D-20221108 (20X)	Chloroform	29.2 ug/L	29.2JB+ ug/L

VI. Field Blanks

Sample Trip Blank was identified as a trip blank. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Analyte	Concentration	Associated Samples
Trip Blank	11/08/22	Chloroform Iodomethane	1.2 ug/L 0.59 ug/L	RW5-4-20221107 RW5-2-20221107 MW5-6-20221107 MW5-1DA-20221107 RW5-1-20221107 Dup-01-20221107 MW1-1DA-20221107 SW3-3-20221107 SW3-15-20221107 SW3-2-20221107 SW99-10-20221108 SW10-7-20221108 SW10-8-20221108 SW10-5-20221108 MW10-1DA-20221108 PW10-2-20221108 MW10-10D-20221108 MW10-4D-20221108 MW10-4E-20221108 PW10-1-20221108 MW10-9D-20221108 MW10-3D-20221108 MW15-3-20221108

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
MW5-6-20221107	Chloroform	0.45 ug/L	0.75UB ug/L
RW5-1-20221107	Chloroform	0.45 ug/L	0.75UB ug/L
SW3-3-20221107	Chloroform	0.96 ug/L	0.96JB+ ug/L
SW3-15-20221107	Chloroform	0.79 ug/L	0.79JB+ ug/L
SW3-2-20221107	Chloroform Iodomethane	1.1 ug/L 1.4 ug/L	1.1JB+ ug/L 1.4JB+ ug/L
SW99-10-20221108	Chloroform Iodomethane	0.47 ug/L 1.1 ug/L	0.75UB ug/L 1.1JB+ ug/L
SW10-7-20221108	Chloroform	0.69 ug/L	0.75UB ug/L
SW10-8-20221108	Chloroform Iodomethane	0.79 ug/L 0.54 ug/L	0.79JB+ ug/L 0.75UB ug/L
SW10-5-20221108	Iodomethane	0.78 ug/L	0.78JB+ ug/L
MW10-4D-20221108	Iodomethane	0.49 ug/L	0.75UB ug/L
PW10-1-20221108	Chloroform Iodomethane	0.46 ug/L 0.71 ug/L	0.75UB ug/L 0.75UB ug/L
MW10-3D-20221108	Iodomethane	0.96 ug/L	0.96JB+ ug/L
MW15-3-20221108	Chloroform Iodomethane	0.96 ug/L 0.64 ug/L	0.96JB+ ug/L 0.75UB ug/L

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Affected Analyte	Flag	A or P
Trip Blank	Bromofluorobenzene	116 (85-114)	All analytes	J+ (all detects)	P

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
SW10-5-20221108MS/MSD (SW10-5-20221108)	Iodomethane	55.4 (69-131)	-	J- (all detects)	A

Relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	RPD (Limits)	Flag	A or P
SW10-5-20221108MS/MSD (SW10-5-20221108)	Bromomethane Iodomethane	23.50 (≤20) 29.80 (≤20)	J (all detects) J (all detects)	A
SW10-5-20221108MS/MSD (SW10-5-20221108)	1,2,3-Trichlorobenzene Acetone	20.10 (≤20) 20.70 (≤20)	NA	-

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples RW5-1-20221107 and Dup-01-20221107 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RW5-1-20221107	Dup-01-20221107			
Chloroethane	7.9	9.5	18 (≤30)	-	-
Chloroform	0.45	0.75U	50 (≤30)	NQ	-
cis-1,2-Dichloroethene	0.80	0.63	24 (≤30)	-	-
Toluene	10.3	10.6	3 (≤30)	-	-
trans-1,2-Dichloroethene	0.50	0.56	11 (≤30)	-	-
Vinyl chloride	1.1	1.3	17 (≤30)	-	-

Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	RW5-1-20221107	Dup-01-20221107			
Carbon disulfide	0.75U	0.44	52 (≤30)	NQ	-

NQ = One or both results were less than 5X the limit of quantitation (LOQ), therefore no data were qualified.

XI. Internal Standards

Internal standard data were not reviewed for Level II validation.

XII. Target Analyte Quantitation

Raw data were not reviewed for Level II validation.

XIII. Target Analyte Identification

Raw data were not reviewed for Level II validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to technical holding time, surrogate %R, and MS/MSD %R and RPD, data were qualified as estimated in five samples.

Due to laboratory blank contamination, data were qualified as not detected or estimated in eight samples.

Due to trip blank contamination, data were qualified as not detected or estimated in thirteen samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

NE ORC Niagara Falls
Volatiles - Data Qualification Summary - SDG AUC032/3272934

Sample	Analyte	Flag	A or P	Reason
RW5-4-20221107 Dup-01-20221107	All analytes	J- (all detects) UJ (all non-detects)	P	Technical holding times
RW5-2-20221107	Vinyl chloride	J- (all detects)	P	Technical holding times
Trip Blank	All analytes	J+ (all detects)	P	Surrogates (%R)
SW10-5-20221108	Iodomethane	J- (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
SW10-5-20221108	Bromomethane Iodomethane	J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (RPD)

NE ORC Niagara Falls
Volatiles - Laboratory Blank Data Qualification Summary - SDG AUC032/3272934

Sample	Analyte	Modified Final Concentration	A or P
SW10-8-20221108	Iodomethane	0.75UB ug/L	A
SW10-5-20221108	Iodomethane	0.78JB+ ug/L	A
MW10-4D-20221108	Iodomethane	0.75UB ug/L	A
PW10-1-20221108	Iodomethane	0.75UB ug/L	A
MW10-3D-20221108	Iodomethane	0.96JB+ ug/L	A
Trip Blank	Iodomethane	0.75UB ug/L	A
MW15-3-20221108	Iodomethane	0.75UB ug/L	A
MW10-10D-20221108 (20X)	Chloroform	29.2JB+ ug/L	A

NE ORC Niagara Falls
Volatiles - Field Blank Data Qualification Summary - SDG AUC032/3272934

Sample	Analyte	Modified Final Concentration	A or P
MW5-6-20221107	Chloroform	0.75UB ug/L	A
RW5-1-20221107	Chloroform	0.75UB ug/L	
SW3-3-20221107	Chloroform	0.96JB+ ug/L	
SW3-15-20221107	Chloroform	0.79JB+ ug/L	
SW3-2-20221107	Chloroform Iodomethane	1.1JB+ ug/L 1.4JB+ ug/L	
SW99-10-20221108	Chloroform Iodomethane	0.75UB ug/L 1.1JB+ ug/L	
SW10-7-20221108	Chloroform	0.75UB ug/L	
SW10-8-20221108	Chloroform Iodomethane	0.79JB+ ug/L 0.75UB ug/L	
SW10-5-20221108	Iodomethane	0.78JB+ ug/L	
MW10-4D-20221108	Iodomethane	0.75UB ug/L	
PW10-1-20221108	Chloroform Iodomethane	0.75UB ug/L 0.75UB ug/L	
MW10-3D-20221108	Iodomethane	0.96JB+ ug/L	
MW15-3-20221108	Chloroform Iodomethane	0.96JB+ ug/L 0.75UB ug/L	

LDC #: 55592A1a **VALIDATION COMPLETENESS WORKSHEET** Date: 12/22/22
SDG #: AUC032/3272934 Level II Page: 1 of 2
Laboratory: ALS Environmental, Middletown, PA Reviewer: CQ
2nd Reviewer:

METHOD: GC/MS Volatiles (EPA SW-846 Method 8260C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A SW	
II.	GC/MS Instrument performance check	N	
III.	Initial calibration/ICV	N/N	
IV.	Continuing calibration	N	
V.	Laboratory Blanks	SW	
VI.	Field blanks	SW	TB=23
VII.	Surrogate spikes	SW	
VIII.	Matrix spike/Matrix spike duplicates	SW	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	SW	D=5+6
XI.	Internal standards	N	
XII.	Target analyte quantitation	N	
XIII.	Target analyte identification	N	
XIV	Overall assessment of data	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
SW = See worksheet FB = Field blank EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1 3	RMW5-4-20221107	3272934001	Water	11/07/22
2 1/3	RMW5-2-20221107	3272934002	Water	11/07/22
3 1	MW5-6-20221107	3272934003	Water	11/07/22
4 1	MW5-1DA-20221107	3272934004	Water	11/07/22
5 1	RW5-1-20221107	3272934005	Water	11/07/22
6 3	Dup-01-20221107	3272934006	Water	11/07/22
7 1	MW1-1DA-20221107	3272934009	Water	11/07/22
8 1	SW3-3-20221107	3272934010	Water	11/07/22
9 1	SW3-15-20221107	3272934011	Water	11/07/22
10 1	SW3-2-20221107	3272934012	Water	11/07/22
11 1	SW99-10-20221108	3272934013	Water	11/08/22
12 1	SW10-7-20221108	3272934014	Water	11/08/22
13 2	SW10-8-20221108	3272934015	Water	11/08/22
14 2	SW10-5-20221108	3272934016	Water	11/08/22
15 2	MW10-1DA-20221108	3272934017	Water	11/08/22

LDC #: 55592A1a **VALIDATION COMPLETENESS WORKSHEET** Date: 12/22
SDG #: AUC032/3272934 Level II Page: 2 of 5
Laboratory: ALS Environmental, Middletown, PA Reviewer: 9
2nd Reviewer:

METHOD: GC/MS Volatiles (EPA SW-846 Method 8260C)

	Client ID	Lab ID	Matrix	Date
16	PW10-2-20221108	3272934018	Water	11/08/22
17	MW10-10D-20221108	3272934019	Water	11/08/22
18	MW10-4D-20221108	3272934020	Water	11/08/22
19	MW10-4E-20221108	3272934021	Water	11/08/22
20	PW10-1-20221108	3272934022	Water	11/08/22
21	MW10-9D-20221108	3272934023	Water	11/08/22
22	MW10-3D-20221108	3272934024	Water	11/08/22
23	Trip Blank	3272934026	Water	11/08/22
24	MW15-3-20221108	3272934027	Water	11/08/22
25	RW5-1-20221107MS	3272934005MS	Water	11/07/22
26	RW5-1-20221107MSD	3272934005MSD	Water	11/07/22
27	SW10-5-20221108MS	3272934016MS	Water	11/08/22
28	SW10-5-20221108MSD	3272934016MSD	Water	11/08/22
29				
30				
31				

Notes:

	8260C, CC, C						

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl chloride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1. Ethylene Dibromide

LDC #: 55593A9

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: 9

All circled dates have exceeded the technical holding times.
(Y) N N/A Were all cooler temperatures within validation criteria?
(Y) N N/A Were air bubbles > 1/4 inch or was headspace present in the vials?

METHOD : GC/MS Volatiles (EPA SW 846 Method 8260B) (HT=14)

Sample ID	Matrix	Preserved	Sampling Date	~~Extraction date~~ Ass'd appd	Analysis date	Total # of Days	Qualifier
1,6 (6+MB)	W	Y	11-7-22	All	11-23-22	16	J/UA
2 (6+5)	↓	↓	↓	C only	↓	↓	↓

TECHNICAL HOLDING TIME CRITERIA

Water unpreserved:	Aromatic within 7 days, non-aromatic within 14 days of sample collection.
Water preserved:	Within 14 days of sample collection.
Soil:	Within 14 days of sample collection.

LDC #: 55592A/9

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: 9

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank associated with every sample in this SDG?

Y N N/A Was a method blank analyzed at least once every 12 hours for each matrix and concentration?

Y N N/A Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank analysis date: 11/19/22

Conc. units: ug/L

Associated Samples: 13-16 18-24

Compound	Blank ID	Sample Identification								
	358956MB13	13	14	18	20	22	23	24		
Methylene chloride										
Acetone										
4	0.37									
NNNN	0.66		0.54/0.75UB	0.78/JB+	0.49/0.75UB	0.71/0.75UB	0.96/JB+	0.59/0.75UB	0.64/0.75UB	

Blank analysis date: 11/21/19

Conc. units: ug/L

Associated Samples: 17

Compound	Blank ID	Sample Identification								
	358955MB13	17(20x)								
Methylene chloride										
Acetone										
K	0.49		29.2/JB+							

All results were qualified using the criteria stated below except those circled.

Note: Common contaminants such as Methylene chloride, Acetone, 2-Butanone, Carbon disulfide and TICs that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 55539A9

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: 1

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 11/8/22
Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: _____ Associated Samples: 1-22, 24 (~~TB~~)

Compound	Blank ID	Sample Identification								
	23	5X	3	5	8	9	10	11	12	13
Methylene chloride										
Acetone										
Chloroform	1.2	6	0.45/0.TSUB	0.45/0.TSUB	0.96/JB+	0.79/JB+	1.1/JB+	0.47/0.TSUB	0.69/0.TSUB	0.79/JB+
NNNN	0.59	2.95					1.4/JB+	1.1/JB+		0.54/0.TSUB
	9									

Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 11/8/22
Field blank type: (circle one) Field Blank / Rinsate / ~~Trip Blank~~ / Other: _____ Associated Samples: 1-22, 24

Compound	Blank ID	Sample Identification								
	23	14	18	20	22	24				
Methylene chloride										
Acetone										
Chloroform	1.2			0.46/0.TSUB		0.96/JB+				
NNNN	0.59	0.78/JB+	0.49/0.TSUB	0.71/0.TSUB	0.96/JB+	0.64/0.TSUB				

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 55592A9

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

Reviewer: Q

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all surrogate %R within QC limits?

Y (N) N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		23 (det+ND)	BFB	116 (85-114)	J+det/A
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
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				( )	
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				( )	
				( )	
				( )	

(TOL) = Toluene-d8 (DCE) = 1,2-Dichloroethane-d4
(BFB) = Bromofluorobenzene (DFM) = Dibromofluoromethane

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

METHOD : GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

(Y) N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y (N) ~~N/A~~ Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		27/28	NNNN	55.4 (69-131)	( )	( )	14 (dets)	J/UJ A
			B	( )	( )	23.59 (≤ 20)	↓	~~dets A~~
			NNNN	( )	( )	29.80 (↓)	↓	↓
			NNN	( )	( )	20.10 ( )	(ND)	
			F	( )	( )	20.70 ( )	↓	↓
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		

LDC#: 55592A1 **VALIDATION FINDINGS WORKSHEET** Page: 1 of 1
Field Duplicates Reviewer: PG

METHOD: GCMS VOA (EPA SW 846 Method 8260B)
Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD (≤30 %)	Qualifications (Parent only)
	5	6		
D	7.9	9.5	18	
K	0.45	0.75U	50	NQ
QQQ	0.80	0.63	24	
CC	10.3	10.6	3	
PPP	0.50	0.56	11	
C	1.1	1.3	17	
G	0.75U	0.44	52	NQ

NQ = One or both results were < 5x the LOQ, therefore no data were qualified.

V:\FIELD DUPLICATES\Field Duplicates\FD_Organics\2022\55592A1_Arcadis_NFARS_.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NE ORC Niagara Falls

LDC Report Date: December 27, 2022

Parameters: Volatiles

Validation Level: Level IV

Laboratory: ALS Environmental, Middletown, PA

Sample Delivery Group (SDG): AUC033/3272935

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
PW13-1-20221107	3272935001	Water	11/07/22
MW13-5D-20221107	3272935002	Water	11/07/22
MW13-4D-20221107	3272935003	Water	11/07/22
PW13-4D-20221107	3272935004	Water	11/07/22

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Remedial Action Quality Assurance Project Plan for Sites FT005, LF008, ST010, SS014, DS002, AND DS004, Niagara Falls Air Reserve Station, New York (August 2015), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.3 (2019), and the U.S. Department of Defense (DoD) Data Validation Guidelines Module 1: Data Validation Procedure for Organic Analysis by GC/MS (May 2020). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260C

All sample results were subjected to Level IV data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

B (Blank contamination): The compound or analyte was found in an associated blank as well as in the sample.

UB (Blank contamination): The compound or analyte was found in an associated blank above one half the LOQ, as well as in the sample.

X (Exclusion of data recommended): The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Exclusion of the data is recommended.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For analytes where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 15.0%.

In the case where the laboratory used a calibration curve to evaluate the analytes, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all analytes were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all analytes.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all analytes.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all analytes.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analysis Date	Analyte	Concentration	Associated Samples

Blank ID	Analysis Date	Analyte	Concentration	Associated Samples
3589261MB	11/19/21	Carbon disulfide Iodomethane	0.37 ug/L 0.66 ug/L	All samples in SDG AUC033/3272935

Sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PW13-1-20221107	Iodomethane	0.52 ug/L	0.75UB ug/L
MW13-5D-20221107	Iodomethane	0.64 ug/L	0.75UB ug/L
MW13-4D-20221107	Iodomethane	0.73 ug/L	0.75UB ug/L
PW13-4D-20221107	Iodomethane	0.60 ug/L	0.75UB ug/L

VI. Field Blanks

Sample Trip Blank (from SDG AUC032/3272934) was identified as a trip blank. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Analyte	Concentration	Associated Samples
Trip Blank	11/08/22	Chloroform Iodomethane	1.2 ug/L 0.59 ug/L	All samples in SDG AUC033/3272935

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
PW13-1-20221107	Iodomethane	0.52 ug/L	0.75UB ug/L
MW13-5D-20221107	Iodomethane	0.64 ug/L	0.75UB ug/L
MW13-4D-20221107	Chloroform Iodomethane	0.45 ug/L 0.73 ug/L	0.75UB ug/L 0.75UB ug/L

Sample	Analyte	Reported Concentration	Modified Final Concentration
PW13-4D-20221107	Chloroform Iodomethane	0.46 ug/L 0.60 ug/L	0.75UB ug/L 0.75UB ug/L

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) and relative percent differences (RPD) were not within QC limits. No data were qualified since there were no associated samples in this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Target Analyte Quantitation

All target analyte quantitations met validation criteria.

XIII. Target Analyte Identification

All target analyte identifications met validation criteria.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to laboratory blank contamination, data were qualified as not detected in four samples.

Due to trip blank contamination, data were qualified as not detected in four samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

NE ORC Niagara Falls
Volatiles - Data Qualification Summary - SDG AUC033/3272935

No Sample Data Qualified in this SDG

NE ORC Niagara Falls
Volatiles - Laboratory Blank Data Qualification Summary - SDG AUC033/3272935

Sample	Analyte	Modified Final Concentration	A or P
PW13-1-20221107	Iodomethane	0.75UB ug/L	A
MW13-5D-20221107	Iodomethane	0.75UB ug/L	A
MW13-4D-20221107	Iodomethane	0.75UB ug/L	A
PW13-4D-20221107	Iodomethane	0.75UB ug/L	A

NE ORC Niagara Falls
Volatiles - Field Blank Data Qualification Summary - SDG AUC033/3272935

Sample	Analyte	Modified Final Concentration	A or P
PW13-1-20221107	Iodomethane	0.75UB ug/L	A
MW13-5D-20221107	Iodomethane	0.75UB ug/L	A
MW13-4D-20221107	Chloroform Iodomethane	0.75UB ug/L 0.75UB ug/L	A
PW13-4D-20221107	Chloroform Iodomethane	0.75UB ug/L 0.75UB ug/L	A

LDC #: 55592B1a **VALIDATION COMPLETENESS WORKSHEET** Date: 1/9/23
SDG #: AUC033/3272935 Level IV Page: 1 of 1
Laboratory: ALS Environmental, Middletown, PA Reviewer: 1
2nd Reviewer:

METHOD: GC/MS Volatiles (EPA SW-846 Method 8260C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD ≤ 15% or r² ≥ 0.99 ICV ≤ 20/0
IV.	Continuing calibration	A	CCV ≤ 20/50%
V.	Laboratory Blanks	SW	
VI.	Field blanks	SW	Trip Blank (AUC033/3272934)
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	SW	%R and RPD out - No assd sp
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Target analyte quantitation	A	
XIII.	Target analyte identification	A	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	PW13-1-20221107	3272935001	Water	11/07/22
2	MW13-5D-20221107	3272935002	Water	11/07/22
3	MW13-4D-20221107	3272935003	Water	11/07/22
4	PW13-4D-20221107	3272935004	Water	11/07/22
5				
6				
7				
8				
9				
10				

Notes:

LDC #: 55592B9

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: Q

Method: Volatiles (EPA SW 846 Method 8260C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12-hour clock criteria?	✓			
III. Initial calibration and Initial Calibration Verification				
Did the laboratory perform a 5-point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ ~~20~~ 15% and relative response factors (RRF) within method criteria?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓			
Was an initial calibration verification (ICV) standard analyzed after each initial calibration for each instrument?	✓			
Were all ICV percent differences (%D) ≤ ~~30~~ 20%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) within method criteria?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?	✓			
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?	✓			
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VIII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?	✓			

Validation Area	Yes	No	NA	Findings/Comments
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		✓		
IX. Laboratory control samples				
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Did the laboratory LOQs/RLs meet the QAPP LOQs/RLs?	✓			
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data	✓			
Overall assessment of data was found to be acceptable.				

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methyl cyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 55594B1a

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: 9

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank associated with every sample in this SDG?

Y N N/A Was a method blank analyzed at least once every 12 hours for each matrix and concentration?

Y N N/A Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank analysis date: 11/19/12

Conc. units: ug/L Associated Samples: All

Compound	Blank ID	Sample Identification								
	358926MB3	MB3	1	2	3	4				
Methylene chloride										
Acetone										
4	0.37									
NNNN	0.66		0.57/0.75UB	0.64/0.75UB	0.73/0.75UB	0.60/0.75UB				

Blank analysis date: _____

Conc. units: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								
Methylene chloride										
Acetone										

All results were qualified using the criteria stated below except those circled.

Note: Common contaminants such as Methylene chloride, Acetone, 2-Butanone, Carbon disulfide and TICs that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 55392B9

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: 9

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** _____
Sampling date: 11/3/22
Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: _____ Associated Samples: All

Compound	Blank ID	Sample Identification								
	TripBlank	1	2	3	4					
Methylene chloride										
Acetone	[illegible]									
Chloroform	1.2				0.45/0.TSUB	0.46/0.TSUB				
NNNN	0.59		0.52/0.TSUB	0.64/0.TSUB	0.[illegible]/0.TSUB	0.60/0.TSUB				

Blank units: _____ **Associated sample units:** _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								
Methylene chloride										
Acetone										
Chloroform										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 55592B1a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: 9

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

RRF = $(A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs
X = Mean of the RRFs

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	19A2	11/18/22	QRR (1st internal standard)	0.33858	0.33858	0.305580	0.305583	10.286A	10.28
			DB (2nd internal standard)	1.48958	1.48958	1.35T3TO	1.35T3T	8.48650	8.48T
			HHH (3rd internal standard)	1.2832T	1.2832T	1.1T35TO	1.1T356T	8.08191	8.082
			(4th internal standard)						
2			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						
3			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						
4			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results

LDC #: 55592B19

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: 9

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	IT221190IA	11/19/22	QQQ (1st internal standard)	0.30558	0.3302	0.3302	8.1	8.1
			DD (2nd internal standard)	1.3573T	1.433T	1.433T	5.6	5.6
			HHH (3rd internal standard)	1.1T35T	1.2132	1.2132	3.4	3.4
			(4th internal standard)					
2			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
3			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 55592B19

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: Q

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane	30.00	31.4285	105	105	
1,2-Dichloroethane-d4	↓	32.3862	108	108	
Toluene-d8	↓	32.0399	107	107	
Bromofluorobenzene	↓	33.3744	111	111	

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 53592B19

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration; SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: 358926

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	20	NA	19.60	NA	98.1	98				
Trichloroethene	↓	↓	17.90	↓	89.5	89				
Benzene	↓	↓	20.30	↓	102	102				
Toluene	↓	↓	19.90	↓	99.7	100				
Chlorobenzene	↓	↓	19.10	↓	95.5	95				

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #5599B1a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. 2, RRR

Conc. = $\frac{(41665)(30.0)(1)}{(188908)(0.30550)(\quad)(\quad)}$

= 21.65 ug/L

#	Sample ID	Compound	Reported Concentration (ug/L)	Calculated Concentration (ug/L)	Qualification
	2	RRR	21.6	21.6	

SERES-Arcadis SB JV, LLC
10205 Westheimer Road, Suite 800
Houston
Texas 77042
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Appendix D

Well Inspection Checklist and Landfill Inspection Form

Appendix D
Well Inspection Checklist - Spring 2022
2022 Annual Comprehensive Sampling/Monitoring Report
Niagara Falls Air Reserve Station, New York

Well Number	TOIC Current Depth (ft)	TOIC Water Level (ft)	Water Column Length	Concrete Pad (G/F/P)	Well Paint (G/F/P)	Well Label (G/F/P)	Casing Lock (G/F/P/)	Protective Cover (G/F/P/)	Inner Well Cap (G/F/P)	PDB Deployed?	Equipment in Well (Y/N)	Obstructions in Well (Y/N)	Water in Annulus (Y/N)	Inspection Date	Comments
Site 3															
MW3-1A	13.56	5.21	8.35	G	F	G	G	G	G	N	Y	N	N	6/7/2022	--
MW3-1DA	16.19	4.66	11.53	G	G	G	G	G	G	N	Y	N	N	6/7/2022	--
MW3-1E	44.35	1.51	42.84	G	F	G	P	G	G	N	Y	N	N	6/7/2022	NO LOCK
MW3-2	10.12	5.49	4.63	G	F	G	G	G	G	N	Y	N	N	6/7/2022	--
MW3-2DA	22.22	9.20	13.02	G	G	G	G	G	G	N	Y	N	N	6/7/2022	--
MW3-3A	5.30	1.28	4.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6/7/2022	NA
MW3-3DA	17.17	0.43	16.74	G	F	G	G	G	G	Y	Y	N	N	6/7/2022	--
MW3-4DA	15.81	1.31	14.5	G	F	G	P	G	G	N	Y	N	N	6/7/2022	NO LOCK
MW3-5D	25.79	5.21	20.58	G	F	G	G	G	G	N	Y	N	N	6/7/2022	--
MW3-6A	11.12	7.17	3.95	G	F	G	G	G	G	N	N	N	N	6/7/2022	--
MW3-6D	19.20	6.76	12.44	G	F	G	G	G	G	N	N	N	N	6/7/2022	--
MW3-7	7.59	4.51	3.08	G	G	G	G	G	G	N	N	N	N	6/7/2022	--
MW3-8	12.94	8.72	4.22	G	G	F	G	G	G	N	N	N	N	6/7/2022	--
MW3-8D	23.89	13.12	10.77	G	G	F	G	G	G	N	N	N	N	6/7/2022	--
MW3-8E	46.59	13.19	33.4	G	G	F	G	G	G	N	N	N	N	6/7/2022	--
PW3-3A	13.85	0.87	12.98	G	G	G	G	G	NA	Y	Y	N	N	6/7/2022	BOX
PZ3-1	5.83	4.84	0.99	G	FM	G	FM	G	G	N	N	N	N	6/7/2022	--
PZ3-1D	12.12	2.69	9.43	G	FM	G	FM	G	G	N	N	N	N	6/7/2022	--
PZ3-2	4.20	1.23	2.97	G	FM	G	FM	G	G	N	N	N	N	6/7/2022	--
PZ3-2D	12.58	1.62	10.96	G	FM	G	FM	G	G	N	N	N	N	6/7/2022	--
PZ3-3	2.47	0.27	2.2	G	FM	G	FM	G	G	N	N	N	Y	6/7/2022	--
PZ3-3D	9.57	0.39	9.18	G	FM	G	FM	G	G	N	N	N	Y	6/7/2022	--
PZ3-4	3.51	2.49	1.02	G	FM	G	FM	G	G	N	Y	N	N	6/7/2022	--
PZ3-4D	11.67	1.43	10.24	G	FM	G	FM	G	G	N	N	N	N	6/7/2022	--
PZ3-5	2.89	0.49	2.4	G	FM	G	FM	G	G	N	N	N	Y	6/7/2022	--
PZ3-5D	9.94	0.15	9.79	G	FM	G	FM	G	G	N	N	N	Y	6/7/2022	--
PZ3-6	3.42	1.23	2.19	G	G	G	NA	G	G	N	NA	NA	NA	6/7/2022	NA
PZ3-6D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PZ3-7D	21.73	3.43	18.3	G	FM	G	FM	G	G	N	Y	N	N	6/7/2022	--
PZ-8D	18.38	3.90	14.48	G	FM	G	FM	G	G	N	Y	N	N	6/7/2022	--
PZ3-9	3.99	1.16	2.83	G	FM	G	FM	G	G	N	N	N	N	6/7/2022	--
PZ3-9D	23.97	1.27	22.7	G	G	G	G	G	P	N	N	N	N	6/7/2022	NO CAP
Site 5															
CH5-01	17.42	9.88	7.54	G	FM	P	FM	P	P	N	N	N	N	6/6/2022	NO CAP, NO COVER
CH5-02	32.35	9.72	22.63	G	FM	P	FM	G	G	N	N	N	N	6/6/2022	--
CH5-03	32.54	9.98	22.56	G	FM	P	FM	G	G	N	N	N	N	6/6/2022	--
CH5-04	32.80	9.04	23.76	G	FM	P	FM	G	G	N	Y	N	Y	6/6/2022	--
MW5-1A	16.20	10.57	5.63	G	F	G	P	G	G	N	N	N	N	6/6/2022	NO LOCK
MW5-1DA	28.91	12.65	16.26	G	F	G	G	G	G	Y	Y	N	N	6/6/2022	--
MW5-1E	57.46	12.22	45.24	G	FM	P	FM	G	G	N	N	N	Y	6/6/2022	--

Well Number	TOIC Current Depth (ft)	TOIC Water Level (ft)	Water Column Length	Concrete Pad (G/F/P)	Well Paint (G/F/P)	Well Label (G/F/P)	Casing Lock (G/F/P/)	Protective Cover (G/F/P/)	Inner Well Cap (G/F/P)	PDB Deployed?	Equipment in Well (Y/N)	Obstructions in Well (Y/N)	Water in Annulus (Y/N)	Inspection Date	Comments
MW5-2D	26.58	12.42	14.16	G	F	G	G	G	G	N	N	N	N	6/6/2022	--
MW5-3D	25.17	12.58	12.59	G	F	G	P	G	G	N	N	N	N	6/6/2022	--
MW5-4	15.74	10.81	4.93	G	F	P	G	G	G	N	N	N	N	6/6/2022	--
MW5-4D	26.14	18.91	7.23	G	FM	P	FM	G	G	N	N	N	Y	6/6/2022	--
MW5-5A	20.18	13.33	6.85	G	F	G	G	G	G	N	N	N	N	6/6/2022	--
MW5-5D	27.39	9.88	17.51	G	FM	P	FM	G	G	Y	N	N	Y	6/6/2022	NO CAP
MW5-6	13.66	7.74	5.92	G	FM	P	FM	G	G	Y	N	N	N	6/6/2022	--
MW5-6D	23.10	6.40	16.7	G	FM	P	FM	G	G	N	N	N	Y	6/6/2022	--
MW5-7	13.12	7.96	5.16	G	FM	P	FM	G	G	N	Y	N	Y	6/6/2022	--
MW5-7D	22.34	6.62	15.72	G	FM	P	FM	G	G	N	N	N	Y	6/6/2022	--
MW5-8	10.69	5.79	4.9	G	FM	P	FM	G	G	N	N	N	Y	6/6/2022	--
MW5-8D	20.52	8.63	11.89	G	FM	P	FM	G	G	N	Y	N	Y	6/6/2022	--
RW5-1	14.70	8.56	6.14	G	FM	G	FM	G	G	Y, DUP/MS/MSD	Y	N	N	6/6/2022	--
RW5-2	11.24	6.45	4.79	G	FM	P	FM	G	G	Y	Y	N	N	6/6/2022	--
RW5-3	14.13	8.59	5.54	G	FM	P	FM	G	G	N	N	N	N	6/6/2022	--
RW5-4	14.79	8.63	6.16	G	FM	P	FM	G	G	Y	Y	N	N	6/6/2022	--
Site 8															
CH8-01	31.24	8.32	22.92	G	FM	P	FM	G	F	N	Y	N	N	6/6/2022	--
MW8-1	13.83	8.63	5.2	G	FM	F	FM	G	G	N	Y	N	Y	6/6/2022	--
MW8-1E	50.82	16.41	34.41	G	FM	P	FM	G	G	N	Y	N	Y	6/6/2022	--
MW8-2D	30.19	11.21	18.98	G	F	G	G	G	G	N	Y	N	N	6/6/2022	--
MW8-3	14.79	10.06	4.73	G	F	G	G	G	G	N	Y	N	N	6/6/2022	--
MW8-3DA	26.81	11.89	14.92	G	G	G	G	G	G	N	N	N	N	6/6/2022	--
MW8-4A	15.13	11.12	4.01	G	F	G	G	G	G	N	Y	N	N	6/6/2022	--
MW8-4D	22.62	9.46	13.16	G	F	P	G	G	G	N	N	N	N	6/6/2022	--
MW8-5A	15.21	10.14	5.07	G	F	G	P	G	G	N	Y	N	N	6/6/2022	NO LOCK
MW8-8	14.08	11.24	2.84	G	F	P	G	G	G	N	Y	N	N	6/6/2022	--
MW8-10D	24.92	10.85	14.07	G	F	G	G	G	G	N	Y	N	N	6/6/2022	--
MW8-11	16.63	13.62	3.01	G	F	G	P	G	G	N	N	N	N	6/6/2022	--
MW8-11D	27.42	12.60	14.82	G	F	G	P	G	G	N	Y	N	N	6/6/2022	--
MW8-11E	49.81	13.39	36.42	G	F	P	P	G	G	N	Y	N	N	6/6/2022	--
Site 10															
MW10-1DA	23.06	6.80	16.26	G	G	G	G	G	G	Y	Y	N	N	6/6/2022	--
MW10-1EA	39.95	6.27	33.68	G	G	G	G	G	G	N	Y	N	N	6/6/2022	--
MW10-1F	59.31	6.19	53.12	G	G	G	G	G	G	N	N	N	N	6/6/2022	--
MW10-2	8.94	8.03	0.91	G	G	G	G	G	G	N	Y	N	N	6/6/2022	--
MW10-2E	47.28	5.49	41.79	G	FM	P	FM	P	G	N	N	N	N	6/6/2022	LID BROKEN
MW10-3	9.60	6.94	2.66	G	FM	G	FM	G	G	N	Y	N	N	6/6/2022	--
MW10-3D	25.98	5.08	20.9	G	FM	P	FM	G	F	Y	Y	N	N	6/6/2022	--
MW10-3E	43.48	6.16	37.32	G	FM	P	FM	G	G	N	Y	N	N	6/6/2022	--
MW10-4	8.23	7.72	0.51	G	G	G	G	G	G	N	Y	N	N	6/6/2022	--
MW10-4D	20.12	6.55	13.57	G	G	G	G	G	G	Y	Y	N	Y	6/6/2022	--

Well Number	TOIC Current Depth (ft)	TOIC Water Level (ft)	Water Column Length	Concrete Pad (G/F/P)	Well Paint (G/F/P)	Well Label (G/F/P)	Casing Lock (G/F/P/)	Protective Cover (G/F/P/)	Inner Well Cap (G/F/P)	PDB Deployed?	Equipment in Well (Y/N)	Obstructions in Well (Y/N)	Water in Annulus (Y/N)	Inspection Date	Comments
MW10-4E	40.87	5.18	35.69	F	G	P	NA	NA	G	Y	Y	N	Y	6/6/2022	--
MW10-5D	19.86	7.31	12.55	G	FM	G	FM	G	G	N	N	N	N	6/6/2022	--
MW10-6	9.80	6.79	3.01	G	FM	P	FM	G	G	N	Y	N	Y	6/6/2022	--
MW10-7	9.13	7.02	2.11	G	G	F	NA	G	G	N	Y	N	Y	6/6/2022	--
MW10-8	9.49	6.23	3.26	G	G	P	NA	G	G	N	N	N	N	6/6/2022	--
MW10-8D	Well inaccessible													6/6/2022	INACCESSIBLE
MW10-9D	19.92	5.31	14.61	G	FM	P	FM	G	G	Y	Y	N	Y	6/6/2022	--
MW10-10D	11.24	5.73	5.51	G	FM	F	FM	F	G	Y	Y	N	N	6/6/2022	PROTECTIVE COVER CRACKED
MW10-11	7.56	6.61	0.95	G	FM	F	FM	G	G	N	Y	N	Y	6/6/2022	--
MW10-11D	17.53	6.25		G	FM	F	FM	G	G	N	Y	N	Y	6/6/2022	--
MW10-12	19.03	5.40	13.63	G	FM	P	FM	G	G	N	Y	N	Y	6/6/2022	--
MW10-12D	8.53	6.68	1.85	G	FM	P	FM	G	G	N	Y	N	Y	6/6/2022	--
MW10-13	17.02	6.05	10.97	G	FM	F	FM	G	G	N	Y	N	N	6/6/2022	--
MW10-13D	7.04	6.03	1.01	G	FM	F	FM	G	G	N	Y	N	Y	6/6/2022	--
PW10-1	13.98	7.07	6.91	G	G	G	G	G	NA	Y	Y	N	N	6/6/2022	BOX
PW10-2	25.13	5.48	19.65	G	FM	F	FM	G	NA	Y	Y	N	Y	6/6/2022	--
PZ10-7	10.24	6.01	4.23	G	FM	P	FM	G	G	N	Y	N	N	6/6/2022	--
Site 13															
MW13-1	10.28	8.06	2.22	G	G	G	G	G	G	N	Y	N	N	6/7/2022	--
MW13-1D	16.21	7.56	8.65	G	G	G	G	G	G	N	Y	N	N	6/7/2022	--
MW13-1E	44.04	15.09	28.95	G	G	G	G	G	G	N	Y	N	N	6/7/2022	--
MW13-2D	23.83	12.09	11.74	G	G	G	G	G	G	N	N	N	N	6/7/2022	--
MW13-3	11.05	8.38	2.67	G	G	G	G	G	G	N	Y	N	N	6/7/2022	--
MW13-3D	17.76	6.52	11.24	G	FM	G	FM	G	G	N	Y	N	N	6/7/2022	--
MW13-4	11.03	9.02	2.01	G	G	G	G	G	G	N	Y	N	N	6/7/2022	--
MW13-4D	18.93	9.40	9.53	G	G	G	G	G	G	Y	Y	N	N	6/7/2022	--
MW13-5A	8.03	7.21	0.82	G	FM	G	FM	G	G	N	Y	N	N	6/7/2022	--
MW13-5D	20.89	7.91	12.98	G	G	G	G	G	G	Y	Y	N	N	6/7/2022	--
MW13-6	6.96	4.33	2.63	G	FM	G	FM	G	G	N	Y	N	Y	6/7/2022	--
MW13-6D	9.09	6.24	2.85	G	FM	G	FM	P	G	N	Y	N	N	6/7/2022	--
PW13-1	27.11	6.95	20.16	G	G	G	G	G	N/A	Y	Y	N	N	6/7/2022	--
PW13-4D	23.08	9.37	13.71	G	G	G	G	G	G	Y	N	N	N	6/7/2022	--
PZ13-1	4.49	DRY	N/A	G	FM	G	FM	G	G	N	Y	N	N	6/7/2022	--
PZ13-1D	17.12	5.13	11.99	G	FM	G	FM	G	G	N	Y	N	N	6/7/2022	--
PZ13-2	6.06	2.38	3.68	G	FM	G	FM	G	G	N	N	N	Y	6/7/2022	--
PZ13-2D	17.31	6.65	10.66	G	FM	F	FM	G	F	N	N	N	N	6/7/2022	--
PZ13-3D	Well inaccessible (construction)													6/7/2022	--
PZ13-4	9.80	4.81	4.99	G	FM	G	FM	G	G	N	N	N	Y	6/7/2022	--
PZ13-4D	22.16	5.74	16.42	G	FM	G	FM	G	G	N	N	N	N	6/7/2022	--
Site Various															
MW1-1DA	24.23	10.73	13.5	G	G	G	G	G	G	Y	N	N	N	6/7/2022	--
MW1-7A	13.18	7.64	5.54	G	G	G	G	G	G	N	N	N	N	6/7/2022	NEEDS LOCK

Appendix D
Well Inspection Checklist - Spring 2022
2022 Annual Comprehensive Sampling/Monitoring Report
Niagara Falls Air Reserve Station, New York

Well Number	TOIC Current Depth (ft)	TOIC Water Level (ft)	Water Column Length	Concrete Pad (G/F/P)	Well Paint (G/F/P)	Well Label (G/F/P)	Casing Lock (G/F/P/)	Protective Cover (G/F/P/)	Inner Well Cap (G/F/P)	PDB Deployed?	Equipment in Well (Y/N)	Obstructions in Well (Y/N)	Water in Annulus (Y/N)	Inspection Date	Comments
MPL2-1A	13.64	7.06	6.58	G	G	G	G	G	G	N	N	N	N	6/7/2022	--
MW2-1DA	14.66	3.64	11.02	G	NA	G	G	G	G	N	Y	N	Y	10/25/2022	--
MPL6-2A	14.42	8.39	6.03	G	G	G	G	G	G	N	Y	N	N	10/25/2022	--
MPL6-3	15.83	7.97	7.86	G	G	G	G	G	G	N	Y	N	N	10/25/2022	--
MW7-1D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW7-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW7-2D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW7-3D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
G/F/P = Good/Fair/Poor
Y/N = Yes/No
NA = Not assessed
FM = Flush mount

Well Number	TOIC Current Depth (ft)	TOIC Water Level (ft)	Water Column Length	Concrete Pad (G/F/P)	Well Paint (G/F/P)	Well Label (G/F/P)	Casing Lock (G/F/P/)	Protective Cover (G/F/P/)	Inner Well Cap (G/F/P)	PDB Deployed?	Equipment in Well (Y/N)	Obstructions in Well (Y/N)	Water in Annulus (Y/N)	Inspection Date	Comments
Site 3															
MW3-1A	13.56	5.21	8.35	G	G	G	P	G	G	N	Y	N	N	10/25/2022	NEEDS LOCK
MW3-1DA	16.19	4.66	11.53	G	G	G	F	G	G	N	Y	N	N	10/25/2022	--
MW3-1E	44.35	1.51	42.84	G	G	G	P	G	G	N	Y	N	N	10/25/2022	NEEDS LOCK
MW3-2	10.12	5.49	4.63	G	G	G	G	G	G	N	N	N	N	10/25/2022	--
MW3-2DA	22.22	9.20	13.02	G	G	G	G	G	G	N	Y	N	N	10/25/2022	--
MW3-3A	5.30	1.28	4.02	G	NA	G	G	F	G	N	N	N	N	10/25/2022	--
MW3-3DA	17.17	0.43	16.74	G	NA	G	G	F	G	Y	Y	N	Y	10/25/2022	--
MW3-4DA	15.81	1.31	14.5	G	G	G	G	G	G	N	Y	N	N	10/25/2022	NEEDS LOCK
MW3-5D	25.79	5.21	20.58	G	G	G	G	G	G	N	Y	N	N	10/25/2022	NEEDS BOLTS
MW3-6A	11.12	7.17	3.95	G	G	G	G	G	G	N	N	N	N	10/25/2022	--
MW3-6D	19.20	6.76	12.44	G	G	G	G	G	G	N	N	N	N	10/25/2022	--
MW3-7	7.59	4.51	3.08	G	G	G	G	G	G	N	N	N	N	10/25/2022	--
MW3-8	12.94	8.72	4.22	G	G	G	G	G	G	N	Y	N	N	10/25/2022	--
MW3-8D	23.89	13.12	10.77	G	G	G	G	G	G	N	N	N	N	10/25/2022	--
MW3-8E	46.59	13.19	33.4	G	G	G	G	G	G	N	N	N	N	10/25/2022	--
PW3-3A	13.85	0.87	12.98	G	G	G	G	G	G	Y	Y	N	N	10/25/2022	--
PZ3-1	5.83	4.84	0.99	G	FM	G	FM	G	G	N	Y	N	N	10/25/2022	NEEDS BOLTS
PZ3-1D	12.12	2.69	9.43	G	FM	G	FM	G	G	N	N	N	Y	10/25/2022	NEEDS BOLTS
PZ3-2	4.20	1.23	2.97	G	FM	G	FM	G	G	N	N	N	N	10/25/2022	--
PZ3-2D	12.58	1.62	10.96	G	FM	G	FM	G	G	N	N	N	N	10/25/2022	--
PZ3-3	2.47	0.27	2.2	G	FM	G	FM	F	F	N	N	N	Y	10/25/2022	--
PZ3-3D	9.57	0.39	9.18	G	FM	G	FM	G	G	N	N	N	Y	10/25/2022	--
PZ3-4	3.51	2.49	1.02	G	FM	G	FM	G	G	N	N	N	N	10/25/2022	--
PZ3-4D	11.67	1.43	10.24	G	FM	G	FM	G	G	N	N	N	N	10/25/2022	--
PZ3-5	2.89	0.49	2.4	G	FM	G	FM	G	G	N	N	N	N	10/25/2022	NEEDS BOLTS
PZ3-5D	9.94	0.15	9.79	G	FM	G	FM	G	G	N	N	N	Y	10/25/2022	NEEDS BOLTS
PZ3-6	3.42	1.23	2.19	G	NA	G	NONE	G	G	N	N	N	N	10/25/2022	--
PZ3-6D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PZ3-7D	21.73	3.43	18.3	G	FM	G	FM	G	G	N	Y	N	N	10/25/2022	--
PZ-8D	18.38	3.90	14.48	G	FM	G	FM	G	G	N	Y	N	N	10/25/2022	--
PZ3-9	3.99	1.16	2.83	G	FM	G	FM	G	G	N	N	N	Y	10/25/2022	--
PZ3-9D	23.97	1.27	22.7	G	G	G	G	G	G	N	N	N	N	10/25/2022	NEEDS LOCK
Site 5															
CH5-01	17.42	9.88	7.54	G	FM	G	FM	P	P	N	N	N	N	10/24/2022	NEW CAP, BOLTS, JPLUGS
CH5-02	32.35	9.72	22.63	G	FM	G	FM	G	G	N	N	N	N	10/24/2022	--
CH5-03	32.54	9.98	22.56	G	FM	G	FM	G	G	N	N	N	N	10/24/2022	--
CH5-04	32.80	9.04	23.76	G	FM	G	FM	G	G	N	Y	N	N	10/24/2022	--
MW5-1A	16.20	10.57	5.63	G	G	G	P	G	G	N	N	N	N	10/24/2022	NEEDS LOCK
MW5-1DA	28.91	12.65	16.26	G	N/A	G	G	G	G	Y	Y	N	N	10/24/2022	--

Well Number	TOIC Current Depth (ft)	TOIC Water Level (ft)	Water Column Length	Concrete Pad (G/F/P)	Well Paint (G/F/P)	Well Label (G/F/P)	Casing Lock (G/F/P/)	Protective Cover (G/F/P/)	Inner Well Cap (G/F/P)	PDB Deployed?	Equipment in Well (Y/N)	Obstructions in Well (Y/N)	Water in Annulus (Y/N)	Inspection Date	Comments
MW5-1E	57.46	12.22	45.24	G	FM	G	FM	G	G	N	N	N	N	10/24/2022	NEEDS BOLTS
MW5-2D	26.58	12.42	14.16	G	G	G	G	G	G	N	N	N	N	10/24/2022	--
MW5-3D	25.17	12.58	12.59	G	G	G	P	G	G	N	N	N	N	10/24/2022	NEEDS BOLTS
MW5-4	15.74	10.81	4.93	G	G	G	G	G	G	N	Y	N	N	10/24/2022	--
MW5-4D	26.14	18.91	7.23	G	FM	G	FM	G	G	N	N	N	Y	10/24/2022	NEEDS BOLTS
MW5-5A	20.18	13.33	6.85	G	G	G	G	G	G	N	N	N	N	10/24/2022	--
MW5-5D	27.39	9.88	17.51	G	FM	G	FM	G	G	Y	Y	N	Y	10/24/2022	NEEDS BOLTS
MW5-6	13.66	7.74	5.92	G	FM	G	FM	G	G	Y	Y	N	N	10/24/2022	--
MW5-6D	23.10	6.40	16.7	G	FM	G	FM	G	G	N	N	N	N	10/24/2022	--
MW5-7	13.12	7.96	5.16	G	FM	G	FM	G	G	N	Y	N	N	10/24/2022	NEEDS BOLTS
MW5-7D	22.34	6.62	15.72	G	FM	G	FM	G	G	N	N	N	N	10/24/2022	--
MW5-8	10.69	5.79	4.9	G	FM	G	FM	G	G	N	Y	N	N	10/24/2022	--
MW5-8D	20.52	8.63	11.89	G	FM	G	FM	G	G	N	Y	N	Y	10/24/2022	NEEDS BOLTS
RW5-1	14.70	8.56	6.14	G	FM	G	FM	G	G	Y, DUP/MS/MSD	Y	N	N	10/24/2022	--
RW5-2	11.24	6.45	4.79	G	FM	G	FM	G	G	Y	Y	N	N	10/24/2022	--
RW5-3	14.13	8.59	5.54	G	FM	G	FM	G	G	N	N	N	N	10/24/2022	--
RW5-4	14.79	8.63	6.16	G	FM	G	FM	G	G	Y	Y	N	N	10/24/2022	--
Site 8															
CH8-01	31.24	8.32	22.92	G	FM	G	FM	G	G	N	Y	N	N	10/24/2022	--
MW8-1	13.83	8.63	5.2	G	FM	G	FM	G	G	N	Y	N	Y	10/24/2022	--
MW8-1E	50.82	16.41	34.41	G	FM	G	FM	G	G	N	Y	N	N	10/24/2022	--
MW8-2D	30.19	11.21	18.98	G	G	G	G	G	G	N	Y	N	N	10/24/2022	--
MW8-3	14.79	10.06	4.73	G	G	G	G	G	G	N	Y	N	N	10/24/2022	--
MW8-3DA	26.81	11.89	14.92	G	G	G	G	G	G	N	Y	N	N	10/24/2022	--
MW8-4A	15.13	11.12	4.01	G	G	G	G	G	G	N	Y	N	N	10/24/2022	--
MW8-4D	22.62	9.46	13.16	G	G	G	G	G	G	N	N	N	N	10/24/2022	--
MW8-5A	15.21	10.14	5.07	G	G	G	P	G	G	N	Y	N	N	10/24/2022	NEEDS LOCK
MW8-8	14.08	11.24	2.84	G	G	G	G	G	G	N	Y	N	N	10/24/2022	--
MW8-10D	24.92	10.85	14.07	G	G	G	G	G	G	N	Y	N	N	10/24/2022	--
MW8-11	16.63	13.62	3.01	G	G	G	P	G	G	N	N	N	N	10/24/2022	NEEDS LOCK
MW8-11D	27.42	12.60	14.82	G	G	G	G	G	G	N	Y	N	N	10/24/2022	--
MW8-11E	49.81	13.39	36.42	G	G	G	P	G	G	N	Y	N	N	10/24/2022	NEEDS LOCK
Site 10															
MW10-1DA	23.06	6.80	16.26	G	N/A	G	G	G	G	Y	Y	N	N	10/24/2022	--
MW10-1EA	39.95	6.27	33.68	G	N/A	G	G	G	G	N	N	N	N	10/24/2022	--
MW10-1F	59.31	6.19	53.12	G	N/A	G	G	G	G	N	Y	N	N	10/24/2022	--
MW10-2	8.94	8.03	0.91	G	N/A	G	G	G	G	N	N	N	N	10/24/2022	--
MW10-2E	47.28	5.49	41.79	G	FM	G	FM	P	G	N	N	N	N	10/24/2022	NEEDS BOLTS, COVER, LOCK
MW10-3	9.60	6.94	2.66	G	FM	G	FM	G	G	N	Y	N	N	10/24/2022	--
MW10-3D	25.98	5.08	20.9	G	FM	G	FM	G	G	Y	Y	N	N	10/24/2022	--
MW10-3E	43.48	6.16	37.32	G	FM	G	FM	G	G	N	Y	N	N	10/24/2022	--

Well Number	TOIC Current Depth (ft)	TOIC Water Level (ft)	Water Column Length	Concrete Pad (G/F/P)	Well Paint (G/F/P)	Well Label (G/F/P)	Casing Lock (G/F/P/)	Protective Cover (G/F/P/)	Inner Well Cap (G/F/P)	PDB Deployed?	Equipment in Well (Y/N)	Obstructions in Well (Y/N)	Water in Annulus (Y/N)	Inspection Date	Comments
MW10-4	8.23	7.72	0.51	G	N/A	G	G	G	G	N	Y	N	N	10/24/2022	--
MW10-4D	20.12	6.55	13.57	G	N/A	G	G	G	G	Y	Y	N	N	10/24/2022	--
MW10-4E	40.87	5.18	35.69	G	N/A	G	G	G	G	Y	Y	N	N	10/24/2022	--
MW10-5D	19.86	7.31	12.55	G	FM	G	FM	G	G	N	N	N	N	10/24/2022	--
MW10-6	9.80	6.79	3.01	G	FM	G	FM	G	G	N	Y	N	N	10/24/2022	--
MW10-7	9.13	7.02	2.11	G	N/A	G	G	P	G	N	Y	N	N	10/24/2022	NEEDS LOCK
MW10-8	9.49	6.23	3.26	G	N/A	G	G	G	G	N	N	N	N	10/24/2022	--
MW10-8D	Well inaccessible														
MW10-9D	19.92	5.31	14.61	G	FM	G	FM	G	G	Y	Y	N	N	10/24/2022	--
MW10-10D	11.24	5.73	5.51	G	FM	G	FM	G	G	Y	Y	N	Y	10/24/2022	--
MW10-11	7.56	6.61	0.95	G	FM	G	FM	G	G	N	Y	N	Y	10/24/2022	--
MW10-11D	17.53	6.25		G	FM	G	FM	G	G	N	Y	N	Y	10/24/2022	--
MW10-12	19.03	5.40	13.63	G	FM	G	FM	G	G	N	Y	N	N	10/24/2022	--
MW10-12D	8.53	6.68	1.85	G	FM	G	FM	G	G	N	Y	N	N	10/24/2022	--
MW10-13	17.02	6.05	10.97	G	FM	G	FM	G	G	N	Y	N	Y	10/24/2022	--
MW10-13D	7.04	6.03	1.01	G	FM	G	FM	G	G	N	N	N	N	10/24/2022	--
PW10-1	13.98	7.07	6.91	G	N/A	G	G	G	G	Y	Y	N	N	10/24/2022	--
PW10-2	25.13	5.48	19.65	G	FM	G	FM	G	G	Y	Y	N	N	10/24/2022	--
PZ10-7	10.24	6.01	4.23	G	FM	G	FM	G	G	N	Y	N	N	10/24/2022	--
Site 13															
MW13-1	10.28	8.06	2.22	G	G	G	G	G	G	N	Y	N	N	10/25/2022	NEW WELL CAP
MW13-1D	16.21	7.56	8.65	G	G	G	G	G	G	N	Y	N	N	10/25/2022	--
MW13-1E	44.04	15.09	28.95	G	G	G	G	G	G	N	Y	N	N	10/25/2022	--
MW13-2D	23.83	12.09	11.74	G	G	G	G	G	G	N	N	N	N	10/25/2022	--
MW13-3	11.05	8.38	2.67	G	G	G	G	G	G	N	Y	N	N	10/25/2022	--
MW13-3D	17.76	6.52	11.24	G	FM	G	FM	G	G	N	Y	N	N	10/25/2022	--
MW13-4	11.03	9.02	2.01	G	G	G	G	G	G	N	Y	N	N	10/25/2022	--
MW13-4D	18.93	9.40	9.53	G	G	G	G	G	G	Y	Y	N	N	10/25/2022	--
MW13-5A	8.03	7.21	0.82	G	FM	G	FM	G	G	N	Y	N	N	10/25/2022	--
MW13-5D	20.89	7.91	12.98	G	G	G	G	G	G	Y	Y	N	N	10/25/2022	--
MW13-6	6.96	4.33	2.63	G	FM	G	FM	G	G	N	Y	N	Y	10/25/2022	NEEDS BOLTS, S BOLTS AND PVC
MW13-6D	9.09	6.24	2.85	G	FM	G	FM	P	G	N	Y	N	N	10/25/2022	NEEDS BOLTS, NEEDS NEW CAP
PW13-1	27.11	6.95	20.16	G	G	G	G	G	N/A	Y	Y	N	N	10/25/2022	--
PW13-4D	23.08	9.37	13.71	G	G	G	G	G	G	Y	Y	N	N	10/25/2022	--
PZ13-1	4.49	DRY	N/A	G	FM	G	FM	G	G	N	Y	N	N	10/25/2022	NEEDS BOLTS
PZ13-1D	17.12	5.13	11.99	G	FM	G	FM	G	G	N	Y	N	N	10/25/2022	NEEDS BOLTS
PZ13-2	6.06	2.38	3.68	G	FM	G	FM	G	G	N	N	N	Y	10/25/2022	NEEDS BOLTS
PZ13-2D	17.31	6.65	10.66	G	FM	G	FM	G	G	N	N	N	N	10/25/2022	NEEDS BOLTS
PZ13-3D	Well inaccessible (construction)														
PZ13-4	9.80	4.81	4.99	G	FM	G	FM	G	G	N	N	N	Y	10/25/2022	NEEDS BOLTS
PZ13-4D	22.16	5.74	16.42	G	FM	G	FM	G	G	N	N	N	N	10/25/2022	NEEDS BOLTS

Well Number	TOIC Current Depth (ft)	TOIC Water Level (ft)	Water Column Length	Concrete Pad (G/F/P)	Well Paint (G/F/P)	Well Label (G/F/P)	Casing Lock (G/F/P/)	Protective Cover (G/F/P/)	Inner Well Cap (G/F/P)	PDB Deployed?	Equipment in Well (Y/N)	Obstructions in Well (Y/N)	Water in Annulus (Y/N)	Inspection Date	Comments
Site Various															
MW1-1DA	24.23	10.73	13.5	G	G	G	G	G	G	Y	Y	N	N	10/25/2022	--
MW1-7A	13.18	7.64	5.54	G	G	G	P	G	G	N	N	N	N	10/25/2022	NEEDS LOCK
MPL2-1A	13.64	7.06	6.58	G	G	G	G	P	G	N	Y	N	N	10/25/2022	--
MW2-1DA	14.66	3.64	11.02	G	NA	G	G	G	G	N	Y	N	Y	10/25/2022	--
MPL6-2A	14.42	8.39	6.03	G	G	G	G	G	G	N	Y	N	N	10/25/2022	--
MPL6-3	15.83	7.97	7.86	G	G	G	G	G	G	N	Y	N	N	10/25/2022	--
MW7-1D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW7-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW7-2D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW7-3D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
G/F/P = Good/Fair/Poor
Y/N = Yes/No
NA = Not assessed
FM = Flush mount surface completion

SITE 3 – LANDFILL
CAP MAINTENANCE PLAN
MARCH 2010

In accordance with the New York State Department of Environmental Conservation (NYSDEC) Order on Consent (CO) and Administrative Settlement (Site No. 932106, Index No. R920150902-65) and the Draft Final Site Management Plan (SMP) prepared by EA (EA 2020) the installation plans to maintain the integrity of the landfill associated with Installation Restoration Program (IRP) Site 3 by implementing the following measures:

1. IRP Manager or his/her designee will monitor the integrity of the landfill cover system by periodically visiting the site to ensure the cover system is completely vegetated and is mowed (during the mowing season). Bare spots will be seeded. Low spots will be filled in.
2. Maintain grass height at less than 4”.
3. Perform maintenance on the landfill cover system as needed.
4. Land use controls are implemented to prevent excavations from occurring on the landfill. Niagara Falls ARS requires a Dig Permit be obtained for any construction project that involves excavation. Through the Dig Permit process, the IRP Manager would be able to identify and prohibit excavations within the limits of the landfill.

SITE 3 LANDFILL – CAP INSPECTION LOG

Inspection Date	Inspector	Maintenance Required?
23 Sep 2011	Kim Powell (RPM)	Yes – Five low spots observed on landfill cap.
26 Oct 2012	Kim Powell (RPM)	No Maintenance Required
20 Sep 2013	Robert Peterson (EA Engineering)	No Maintenance Required
24 Sep 2014	Frank DeSantis (EA Engineering)	No Maintenance Required
23 Sep 2015	Nate Kranes (EA Engineering)	No Maintenance Required
29 Sep 2016	Nate Kranes (EA Engineering)	No Maintenance Required
11 Oct 2017	Nate Kranes (EA Engineering)	No Maintenance Required
27 Sep 2018	Nate Kranes (EA Engineering)	No Maintenance Required (however, two minor ruts were repaired in 2018.)
02 Oct 2019	Lindsay Mairs (EA Engineering)	No Maintenance Required
09 Dec 2020	Lindsay Mairs (NFARS RPM)	No Maintenance Required
29 Jun 2021	Lindsay Mairs (NFARS RPM)	No Maintenance Required
Feb 2022	Lindsay Mairs (NFARS RPM)	Two trees were toppled by wind; arrangements made to remove trees and restore disturbed areas.
22 April 2022	Lindsay Mairs (NFARS RPM)	Wheel ruts were observed in landfill cap near intersection of Kinross Street and Utzig Drive; In May 2022 the base contractor used a roller to flatten the ruts that were present. One bag of topsoil stored on base was used along with hydroseed to restore the damaged area.
29 June 2022	Lindsay Mairs (NFARS RPM)	No Maintenance Required. The wheel rut areas that were restored in May 2022 were inspected, grass was thriving and the appeared to be restored.

SITE 3 – LANDFILL MAINTENANCE ACTIONS PERFORMED

Maintenance Date	Comments
28 Sep 2011	Kim Powell called in WO# H1003 to fill in 5 holes on landfill cap with clay, topsoil, and grass seed. Repairs completed in October 2011.
13 Jun 2018	Work order for repairs to two locations (rake and level minor ruts).
April 2022	Downed trees were cut up and loaded in dumpster for transportation to offsite disposal facility. Disturbed areas were backfilled with one bag of topsoil on base and restored with grass seed.
03 May 2022	Wheel ruts in the landfill cap were backfilled with one bag of topsoil on base and restored with grass seed.

Appendix E

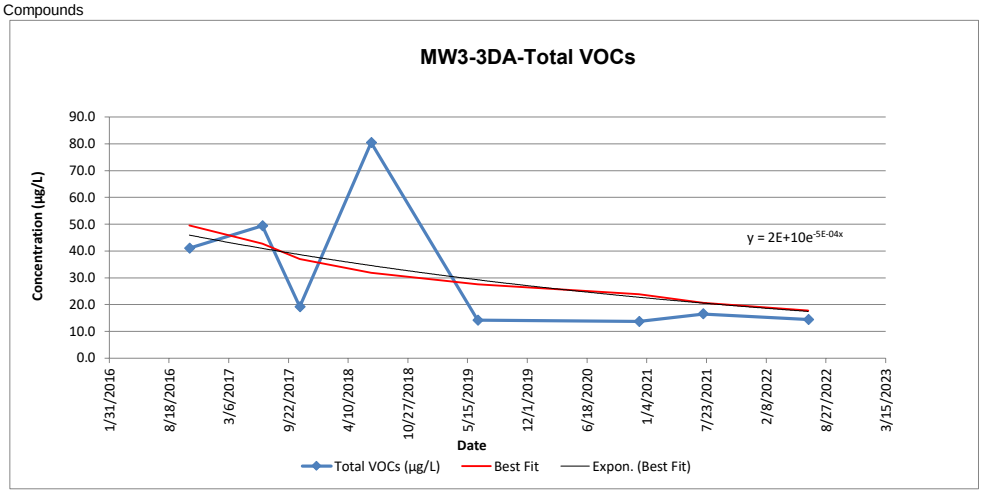
Well Trend Graphs

Site 3

Appendix E
Analytical Data for Well Termination
Site 3
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	MW3-3DA							
Sample Date			10/25/2016	6/27/2017	10/30/2017	6/26/2018	6/18/2019	12/9/2020	7/12/2021	6/29/2022
Parameter										
1,4-Dioxane	µg/L	NS	U	U	U	61.4 J	U	--	--	U
2-Butanone (MEK)	µg/L	50	2.8 J	U	U	U	U	U	R	U
Acetone	µg/L	50	3.6 J	26.6	U	U	U	U	R	U
Benzene	µg/L	1	U	U	U	U	U	U	R	U
Carbon Disulfide	µg/L	60	U	U	U	U	U	U	R	U
Chloroform	µg/L	7	U	U	U	U	U	U	R	U
cis-1,2-Dichloroethene	µg/L	5	7.1	5.8	5.1	5.4	4.9	5.0	5.4 J-	5.3
Cyclohexane	µg/L	NS	2.6 J	U	U	U	U	U	R	U
Methylcyclohexane	µg/L	NS	U	U	U	U	U	U	R	U
Toluene	µg/L	5	U	U	U	U	U	U	R	U
trans-1,2-Dichloroethene	µg/L	5	U	U	U	U	U	U	R	U
Trichloroethene	µg/L	5	U	U	U	U	U	U	R	U
Vinyl Chloride	µg/L	2	24.9	17	14.1	13.6	9.3	8.7	11.1 J-	9.1
Total VOCs	µg/L		41	49.4	19.2	80.4	14.2	13.7	16.5	14.4

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. J = Estimated value
5. R = Rejected
6. U = Non Detect
7. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **Yes**

2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **Yes***
   2.b. Are single COCs less than 50 ug/L? — **No**

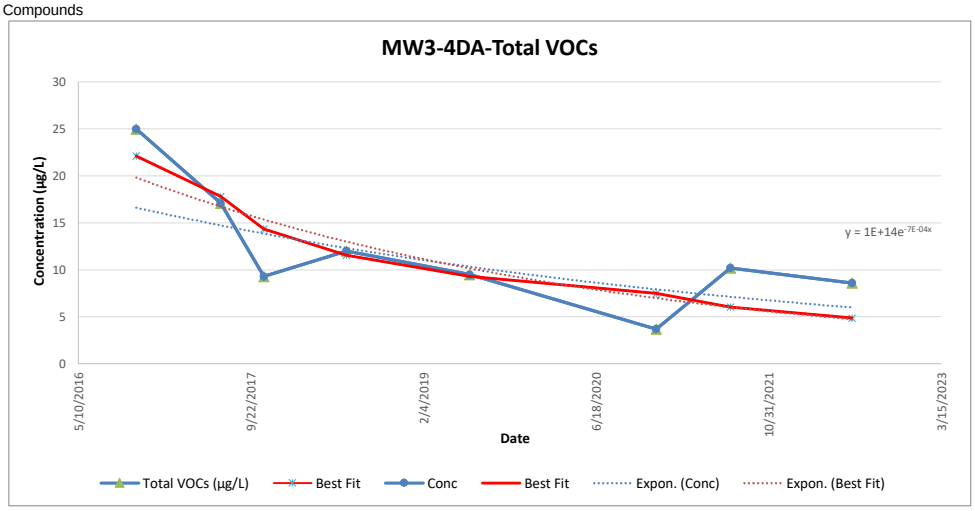
3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

* - While the well achieves this critieria for the last eight monitoring events, these events do not include monitoring over four consecutive quarterly sampling events per Section 5.1.2 of the SMP.

Appendix E
Analytical Data for Well Termination
Site 3
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	MW3-4DA							
Sample Date			10/25/2016	6/27/2017	10/30/2017	6/26/2018	6/18/2019	12/9/2020	7/12/2021	6/29/2022
Parameter										
1,4-Dioxane	µg/L	NS	U	U	U	U	U	--	--	U
2-Butanone (MEK)	µg/L	50	U	U	U	U	U	U	R	U
Acetone	µg/L	50	U	U	U	U	U	U	R	U
Benzene	µg/L	1	U	U	U	U	U	U	R	U
Carbon Disulfide	µg/L	60	U	U	U	U	U	U	R	U
Chloroform	µg/L	7	U	U	U	U	U	U	R	U
cis-1,2-Dichloroethene	µg/L	5	7.9	5.9	4.8	5.25	4.45	3.7	5.05 J-	5.1
Cyclohexane	µg/L	NS	U	U	U	U	U	U	R	U
Methylcyclohexane	µg/L	NS	U	U	U	U	U	U	R	U
Toluene	µg/L	5	U	U	U	U	U	U	R	U
trans-1,2-Dichloroethene	µg/L	5	U	U	U	U	U	U	R	U
Trichloroethene	µg/L	5	U	U	U	U	U	U	R	U
Vinyl Chloride	µg/L	2	17.1	11.2	4.5	6.75	5.05	U	5.15 J-	3.5
Total VOCs	µg/L		**25**	**17.1**	**9.3**	**12**	**9.5**	**3.7**	**10.2**	**8.6**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. J- = Estimated value that may be biased low
5. R = Rejected
6. U = Non Detect
7. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **Yes**

2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **Yes***
   2.b. Are single COCs less than 50 ug/L? — **Yes***

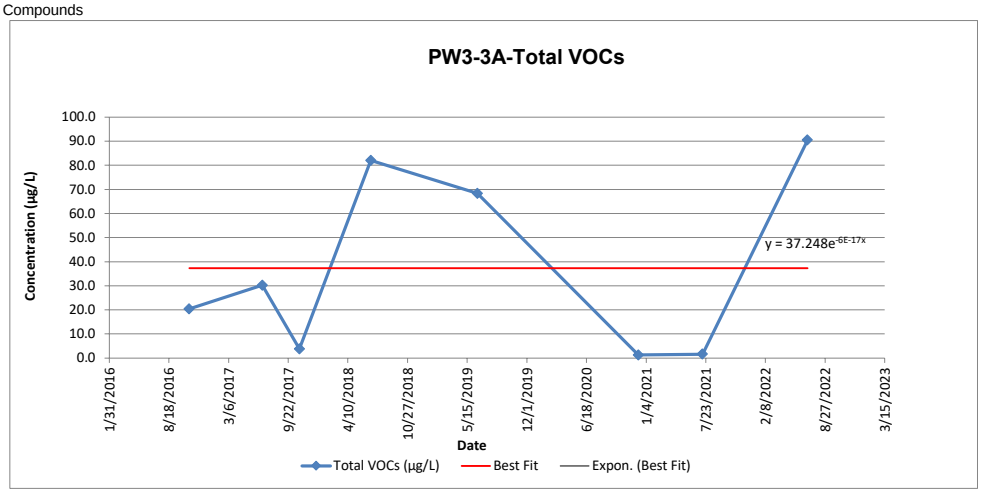
3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

* - While the well achieves this critieria for the last eight monitoring events, these events do not include monitoring over four consecutive quarterly sampling events per Section 5.1.2 of the SMP.

Appendix E
Analytical Data for Well Termination
Site 3
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	PW3-3A							
Sample Date			10/25/2016	6/27/2017	10/30/2017	6/26/2018	6/18/2019	12/9/2020	7/12/2021	6/29/2022
Parameter										
1,4-Dioxane	µg/L	NS	U	U	U	U	U	--	--	U
2-Butanone (MEK)	µg/L	50	5.7 J	U	U	U	U	U	R	U
Acetone	µg/L	50	5 J	27.5	U	45.3	U	U	R	U
Benzene	µg/L	1	U	U	U	0.2 J	U	U	R	0.43
Carbon Disulfide	µg/L	60	U	U	U	U	U	U	R	U
Chloroform	µg/L	7	U	U	U	U	U	U	R	U
cis-1,2-Dichloroethene	µg/L	5	1.1	1.9	2.6	17.6 J	34.2	0.55 J	1.6 J-	40.9
Cyclohexane	µg/L	NS	2.7 J	U	U	U	U	U	R	U
Methylcyclohexane	µg/L	NS	2.8 J	U	U	U	U	U	R	U
Toluene	µg/L	5	3.1	U	U	U	U	U	R	U
trans-1,2-Dichloroethene	µg/L	5	U	U	U	0.43 J	0.71 J	U	R	0.72
Trichloroethene	µg/L	5	U	U	U	0.64 J	6.2	U	R	10.8
Vinyl Chloride	µg/L	2	U	0.80 J	1.2	17.8	27.2	0.7 J	R	37.6
Total VOCs	µg/L		**20.4**	**30.2**	**3.8**	**81.97**	**68.31**	**1.25**	**1.6**	**90.45**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. J = Estimated value
5. J- = Estimated value that may be biased low
6. R = Rejected
7. U = Non Detect
8. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **Yes**

2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **Yes***
   2.b. Are single COCs less than 50 ug/L? — **No**

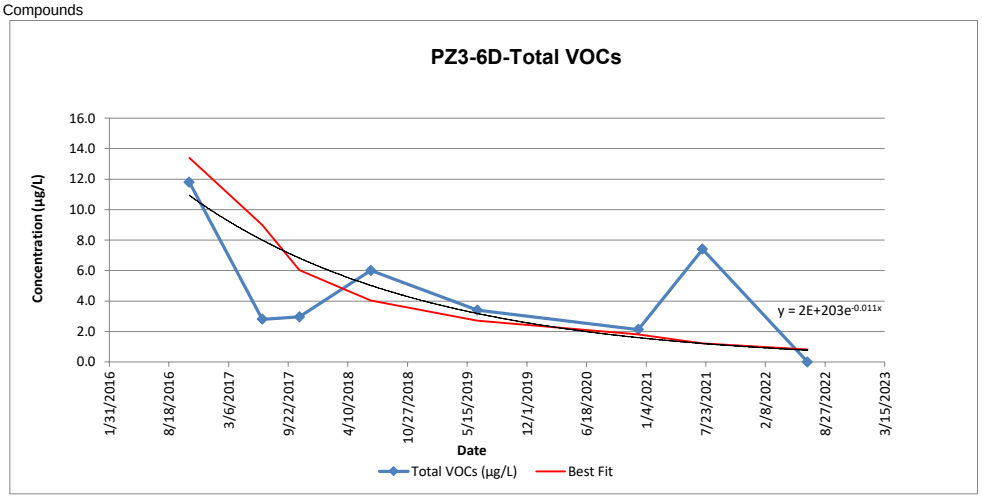
3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

* - While the well achieves this critieria for the last eight monitoring events, these events do not include monitoring over four consecutive quarterly sampling events per Section 5.1.2 of the SMP.

Appendix E
Analytical Data for Well Termination
Site 3
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	PZ3-6D							
Sample Date			10/25/2016	6/27/2017	10/30/2017	6/26/2018	6/18/2019	12/9/2020	7/12/2021	6/29/2022
Parameter										
1,4-Dioxane	µg/L	NS	U	U	U	U	U	--	--	U
2-Butanone (MEK)	µg/L	50	U	U	U	U	U	U	R	U
Acetone	µg/L	50	U	U	U	U	U	U	4.3 J-	U
Benzene	µg/L	1	U	U	U	U	U	U	R	U
Carbon Disulfide	µg/L	60	U	U	0.66 J	U	U	U	R	U
Chloroform	µg/L	7	U	U	U	U	U	U	R	U
cis-1,2-Dichloroethene	µg/L	5	5.4	1.5	1.2	3.3	2	1.3	2.0 J-	U
Cyclohexane	µg/L	NS	U	U	U	U	U	U	R	U
Methylcyclohexane	µg/L	NS	U	U	U	U	U	U	R	U
Toluene	µg/L	5	U	U	U	U	U	U	R	U
trans-1,2-Dichloroethene	µg/L	5	U	U	U	U	U	U	R	U
Trichloroethene	µg/L	5	U	U	U	U	U	U	R	U
Vinyl Chloride	µg/L	2	6.4	1.3	1.1	2.7	1.4	0.83 J	1.1 J-	U
Total VOCs	µg/L		**11.8**	**2.8**	**2.96**	**6**	**3.4**	**2.13**	**7.4**	**0**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. J = Estimated value
5. J- = Estimated value that may be biased low
6. R = Rejected
7. U = Non Detect
8. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **Yes**

2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **Yes***
   2.b. Are single COCs less than 50 ug/L? — **Yes***

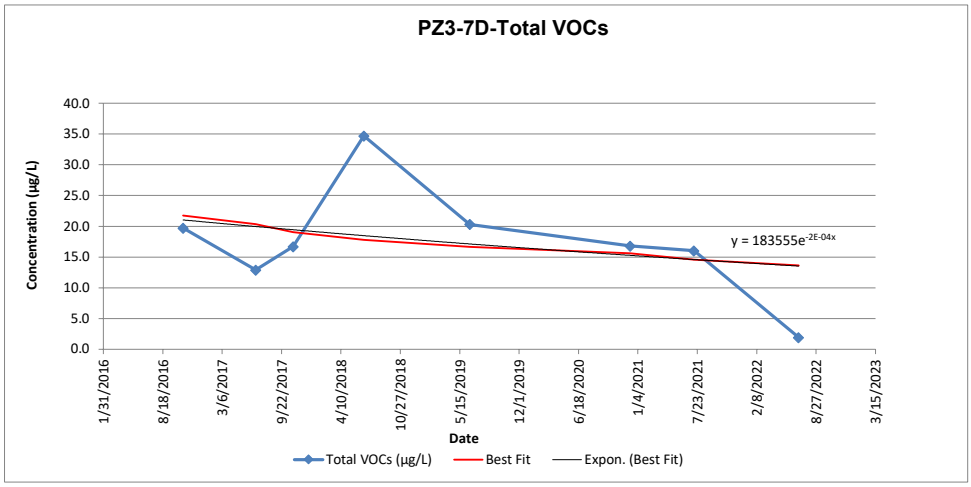
3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

* - While the well achieves this critieria for the last eight monitoring events, these events do not include monitoring over four consecutive quarterly sampling events per Section 5.1.2 of the SMP.

Appendix E
Analytical Data for Well Termination
Site 3
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	PZ3-7D							
Sample Date			10/25/2016	6/27/2017	10/31/2017	6/26/2018	6/18/2019	12/9/2020	7/12/2021	6/29/2022
Parameter										
1,4-Dioxane	µg/L	NS	U	U	U	U	U	--	--	U
2-Butanone (MEK)	µg/L	50	U	U	U	U	U	U	R	U
Acetone	µg/L	50	3 J	U	U	U	U	U	R	U
Benzene	µg/L	1	U	U	U	U	U	U	R	U
Carbon Disulfide	µg/L	60	U	U	U	U	U	U	R	U
Chloroform	µg/L	7	U	U	U	U	U	U	R	U
cis-1,2-Dichloroethene	µg/L	5	8	6.8	6.5	13.4	11.1	11.2	10.5 J-	1.9
Cyclohexane	µg/L	NS	U	U	U	U	U	U	R	U
Methylcyclohexane	µg/L	NS	U	U	U	U	U	U	R	U
Toluene	µg/L	5	U	U	U	U	U	U	R	U
trans-1,2-Dichloroethene	µg/L	5	U	U	U	U	U	U	R	U
Trichloroethene	µg/L	5	U	U	U	U	U	U	R	U
Vinyl Chloride	µg/L	2	8.7	6.1	10.2	21.3	9.2	5.6	5.5 J-	U
Total VOCs	µg/L		**19.7**	**12.9**	**16.7**	**34.7**	**20.3**	**16.8**	**16**	**1.9**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. J = Estimated value
5. J- = Estimated value that may be biased low
6. R = Rejected
7. U = Non Detect
8. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **Yes**

2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **Yes***
   2.b. Are single COCs less than 50 ug/L? — **Yes***

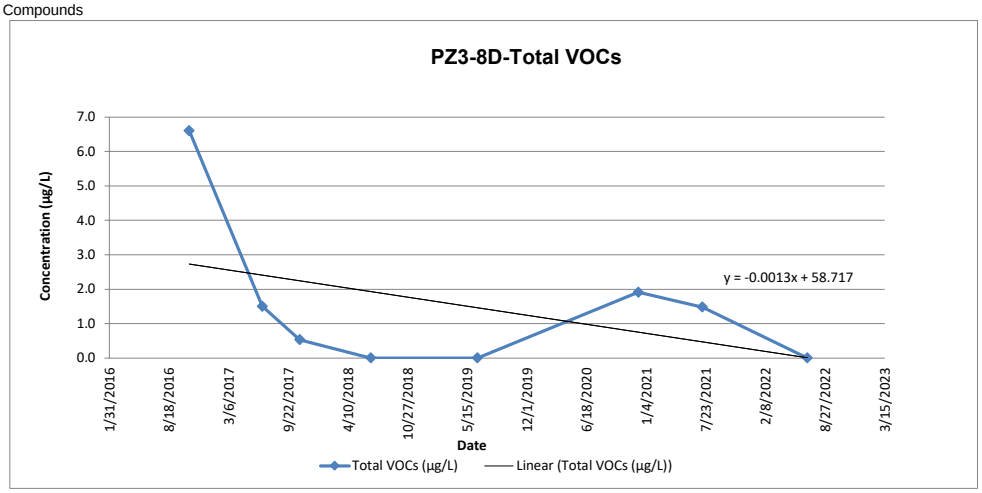
3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

* - While the well achieves this critieria for the last eight monitoring events, these events do not include monitoring over four consecutive quarterly sampling events per Section 5.1.2 of the SMP.

Appendix E
Analytical Data for Well Termination
Site 3
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	PZ3-8D							
Sample Date			10/25/2016	6/27/2017	10/31/2017	6/26/2018	6/18/2019	12/9/2020	7/12/2021	6/29/2022
Parameter										
1,4-Dioxane	µg/L	NS	U	U	U	U	U	--	--	--
2-Butanone (MEK)	µg/L	50	U	U	U	U	U	U	R	U
Acetone	µg/L	50	U	U	U	U	U	U	R	U
Benzene	µg/L	1	U	U	U	U	U	U	R	U
Carbon Disulfide	µg/L	60	U	U	U	U	U	U	R	U
Chloroform	µg/L	7	U	U	U	U	U	U	R	U
cis-1,2-Dichloroethene	µg/L	5	1.1	U	U	U	U	0.61 J	0.51 J-	U
Cyclohexane	µg/L	NS	2.4 J	U	U	U	U	U	R	U
Methylcyclohexane	µg/L	NS	U	U	U	U	U	U	R	U
Toluene	µg/L	5	U	U	U	U	U	U	R	U
trans-1,2-Dichloroethene	µg/L	5	U	U	U	U	U	U	R	U
Trichloroethene	µg/L	5	U	U	U	U	U	U	R	U
Vinyl Chloride	µg/L	2	3.1	1.5	0.53 J	U	U	1.3	0.97 J-	U
Total VOCs	µg/L		**6.6**	**1.5**	**0.53**	**0**	**0**	**1.91**	**1.48**	**0**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. J = Estimated value
5. J- = Estimated value that may be biased low
6. R = Rejected
7. U = Non Detect
8. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):

1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters?	**No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):

1. Does this well achieve "Zero Slope Condition" as defined in the permit?	
1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters	See above
1.b. Fit a trendline (either linear or exponential) using least squares regression model.	See above
1.c. The slope is less than or equal to zero.	**Yes**
2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?	
2.a. Is the total concentration of COCs less than 100 ug/L?	**Yes***
2.b. Are single COCs less than 50 ug/L?	**Yes***

3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

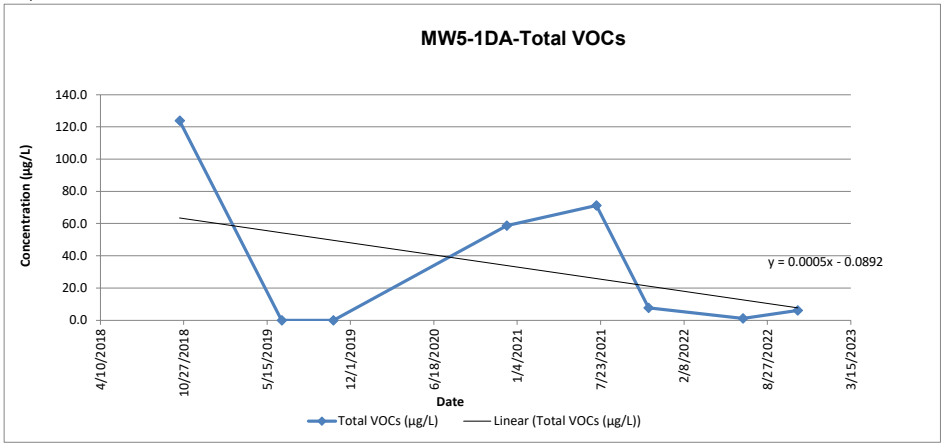
* - While the well achieves this critieria for the last eight monitoring events, these events do not include monitoring over four consecutive quarterly sampling events per Section 5.1.2 of the SMP.

Site 5

Appendix E
Analytical Data for Well Termination
Site 5
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	MW5-1DA							
Sample Date			10/17/2018	6/19/2019	10/21/2019	12/10/2020	7/13/2021	11/15/2021	6/29/2022	11/7/2022
Parameter										
1,1-Dichloroethene	µg/L	5	U	U	U	U	R	U	U	U
1,4-Dioxane	µg/L	NS	U	U	U	--	--	--	U	U
2-Butanone (MEK)	µg/L	50	U	U	U	U	R	U	U	3.3 J
Acetone	µg/L	50	97	U	U	U	R	U	U	U
Benzene	µg/L	1	U	U	U	U	R	U	U	U
Carbon Disulfide	µg/L	60	U	U	U	U	R	U	U	U
Chloroethane	µg/L	5	U	U	U	U	R	U	U	0.73 J
Chloroform	µg/L	7	U	U	U	U	R	U	U	U
cis-1,2-Dichloroethene	µg/L	5	24.2	U	U	53.3	65.1 J-	6.9	1.2	2
Dichloromethane	µg/L	5	U	U	U	U	R	U	U	U
Iodomethane	µg/L	5	U	U	U	U	R	U	U	U
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	50	U	U	U	U	R	U	U	U
Toluene	µg/L	5	U	U	U	U	R	U	U	U
trans-1,2-Dichloroethene	µg/L	5	U	U	U	U	R	U	U	U
Trichloroethene	µg/L	5	U	U	U	U	R	U	U	U
Vinyl chloride	µg/L	2	2.7	U	U	5.4	6.2 J-	0.73 J	U	U
Total VOCs	µg/L		**123.9**	**0**	**0**	**58.7**	**71.3**	**7.63**	**1.2**	**6.03**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. J = Estimated value
5. J- = Estimated value that may be biased low
6. R = Rejected
7. U = Non Detect
8. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **Yes**

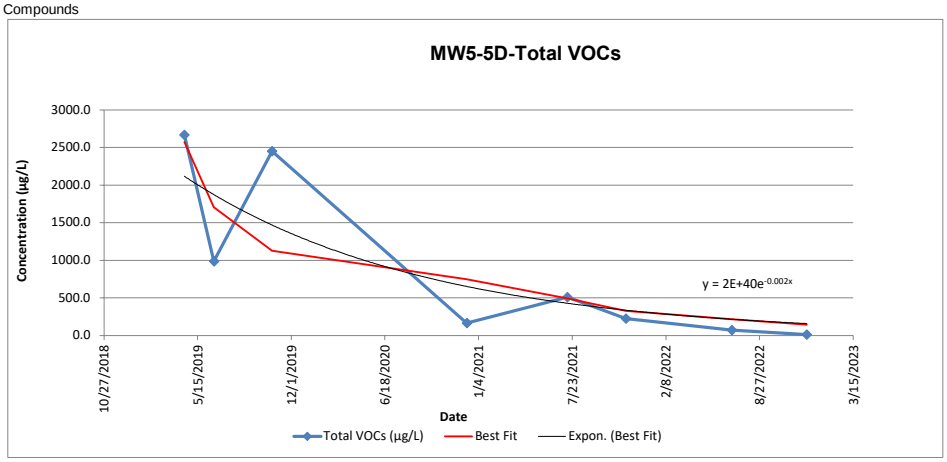
2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **No**
   2.b. Are single COCs less than 50 ug/L? — **No**

3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

Appendix E
Analytical Data for Well Termination
Site 5
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	MW5-5D							
Sample Date			4/17/2019	6/19/2019	10/21/2019	12/10/2020	7/13/2021	11/15/2021	6/29/2022	12/6/2022
Parameter										
1,1-Dichloroethene	µg/L	5	U	U	0.665	U	R	U	U	U
1,4-Dioxane	µg/L	NS	U	U	U	--	--	--	U	--
2-Butanone (MEK)	µg/L	50	U	U	3.9	U	R	2.9 J-	U	U
Acetone	µg/L	50	U	6.7 J	U	U	R	21.0	4.8 J	6.9
Benzene	µg/L	1	U	U	U	U	R	U	U	U
Carbon Disulfide	µg/L	60	U	U	U	U	2.3 J-	0.94 J	0.54 J	U
Chloroethane	µg/L	5	U	U	U	U	80.3 J-	U	U	U
Chloroform	µg/L	7	U	U	U	U	R	U	U	U
cis-1,2-Dichloroethene	µg/L	5	712	90.3	171.5	8 J	64.5 J-	39.1	31.2	1.3
Dichloromethane	µg/L	5	U	U	U	U	R	U	U	U
Iodomethane	µg/L	5	U	U	U	U	R	0.49 J+	U	0.87 J
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	50	U	U	U	U	R	U	U	U
Toluene	µg/L	5	U	U	U	U	R	U	U	U
trans-1,2-Dichloroethene	µg/L	5	33.4	19.6	23.75	23.4	18.7 J-	26.4	2	U
Trichloroethene	µg/L	5	U	0.62 J	0.655	U	R	U	3	1.6
Vinyl chloride	µg/L	2	1920	869	2250	132	344 J-	134	28.9	0.48 J
Total VOCs	µg/L		**2665.4**	**986.22**	**2450.47**	**163.4**	**509.8**	**224.83**	**70.44**	**11.15**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. J = Estimated value
5. J- = Estimated value that may be biased low
6. J+ = Estimated value that may be biased high
7. R = Rejected
8. U = Non Detect
9. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **Yes**

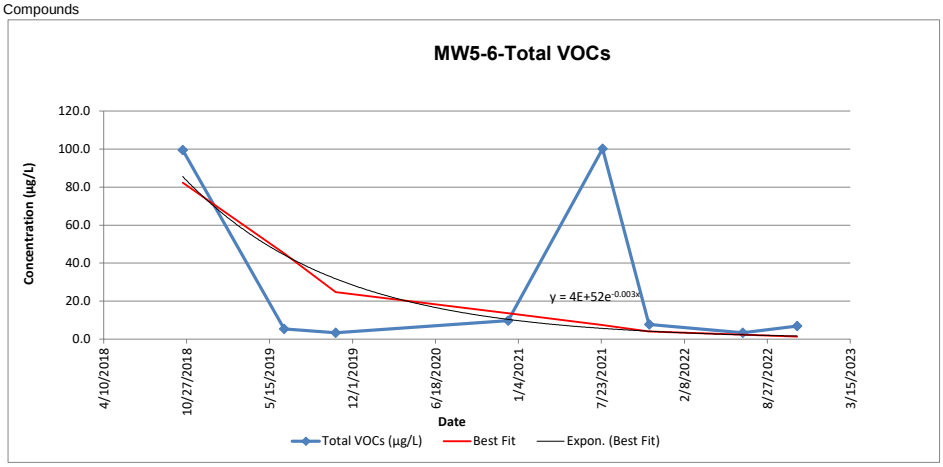
2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **No**
   2.b. Are single COCs less than 50 ug/L? — **No**

3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

Appendix E
Analytical Data for Well Termination
Site 5
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	MW5-6							
Sample Date			10/17/2018	6/19/2019	10/21/2019	12/10/2020	7/26/2021	11/15/2021	6/29/2022	11/7/2022
Parameter										
1,1-Dichloroethene	µg/L	5	U	U	U	U	U	U	U	U
1,4-Dioxane	µg/L	NS	U	U	U	--	--	--	--	--
2-Butanone (MEK)	µg/L	50	73.3	U	U	U	U	U	U	U
Acetone	µg/L	50	U	U	U	5.3 BJ+	95.85	U	U	U
Benzene	µg/L	1	U	U	U	U	U	U	U	U
Carbon Disulfide	µg/L	60	U	U	U	U	0.34	0.93 J	U	U
Chloroethane	µg/L	5	U	U	U	U	U	U	U	U
Chloroform	µg/L	7	U	U	U	U	U	U	U	U
cis-1,2-Dichloroethene	µg/L	5	3.8	2.3	2.3	2.3	2.7	2.9	1.7	2.4
Dichloromethane	µg/L	5	U	U	U	U	U	U	U	U
Iodomethane	µg/L	5	U	U	U	U	U	1.6 J+	U	U
Methyl N-Butyl Ketone (2-Hexanone	µg/L	50	16.8	U	U	U	U	U	U	U
Toluene	µg/L	5	U	U	U	1.7	0.63	1.4	0.585	3.1
trans-1,2-Dichloroethene	µg/L	5	U	U	U	0.42 J	U	0.85 J	U	0.73 J
Trichloroethene	µg/L	5	0.68 J	1.0	1.1	U	0.615	U	0.58	U
Vinyl chloride	µg/L	2	5	2.0	U	U	U	U	0.435	0.7 J
Total VOCs	µg/L		**99.58**	**5.3**	**3.4**	**9.72**	**100.135**	**7.68**	**3.3**	**6.93**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. B = Constituent detected in method blank, trip blank, or both
5. J = Estimated value
6. J+ = Estimated value that may be biased high
7. U = Non Detect
8. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **Yes**

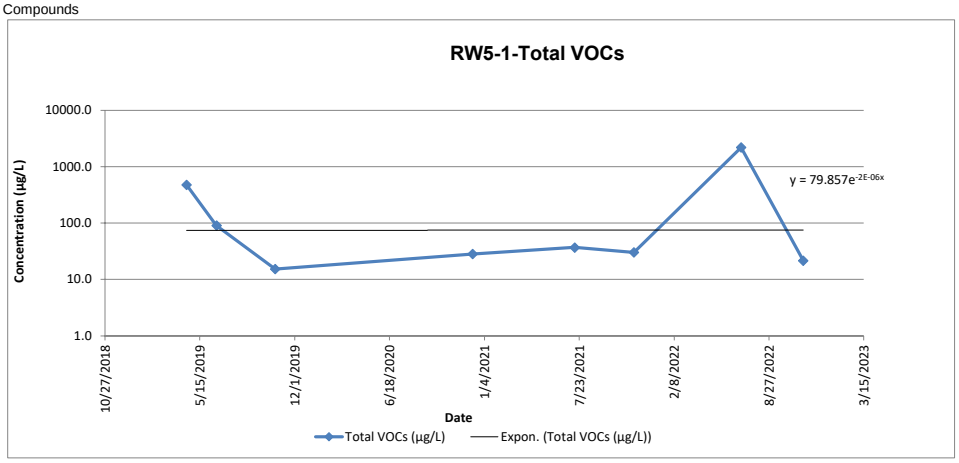
2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **No**
   2.b. Are single COCs less than 50 ug/L? — **No**

3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

Appendix E
Analytical Data for Well Termination
Site 5
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	RW5-1							
Sample Date			4/17/2019	6/19/2019	10/21/2019	12/10/2020	7/13/2021	11/15/2021	6/29/2022	11/7/2022
Parameter										
1,1-Dichloroethene	µg/L	5	U	U	U	U	R	U	1.4	U
1,4-Dioxane	µg/L	NS	U	U	U	--	--	--	--	--
2-Butanone (MEK)	µg/L	50	U	U	U	U	R	U	U	U
Acetone	µg/L	50	U	U	U	U	R	U	U	U
Benzene	µg/L	1	U	U	U	U	R	U	U	U
Carbon Disulfide	µg/L	60	U	U	U	U	R	U	0.7 J	U
Chloroethane	µg/L	5	2.6	3	0.8 J	2.5	12.2 J-	2.6	26.2	8.7
Chloroform	µg/L	7	U	U	U	U	R	U	U	U
cis-1,2-Dichloroethene	µg/L	5	228	32.3	3.8	1.5	1.1 J-	0.55 J	1,390	0.715
Dichloromethane	µg/L	5	U	U	U	U	R	U	U	U
Iodomethane	µg/L	5	U	U	U	U	R	U	U	U
Methyl N-Butyl Ketone (2-Hexanone)	µg/L	50	5.4	U	3.2 J	U	R	U	U	U
Toluene	µg/L	5	1	1.1	3.8	18.9	17.0 J-	21.0	2.8	10.45
trans-1,2-Dichloroethene	µg/L	5	11.6	9.5	0.74 J	0.38 J	2.7 J-	0.33 J	7.6	0.53
Trichloroethene	µg/L	5	2.1	2.5	2.1	0.95 J	0.80 J-	U	2.8	U
Vinyl chloride	µg/L	2	224	42.4	0.81 J	4.1	3.1 J-	5.6	767	1.2
Total VOCs	µg/L		**474.7**	**90.8**	**15.25**	**28.33**	**36.9**	**30.08**	**2198.5**	**21.595**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. J = Estimated value
5. J- = Estimated value that may be biased low
6. R = Rejected
7. U = Non Detect
8. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **No**

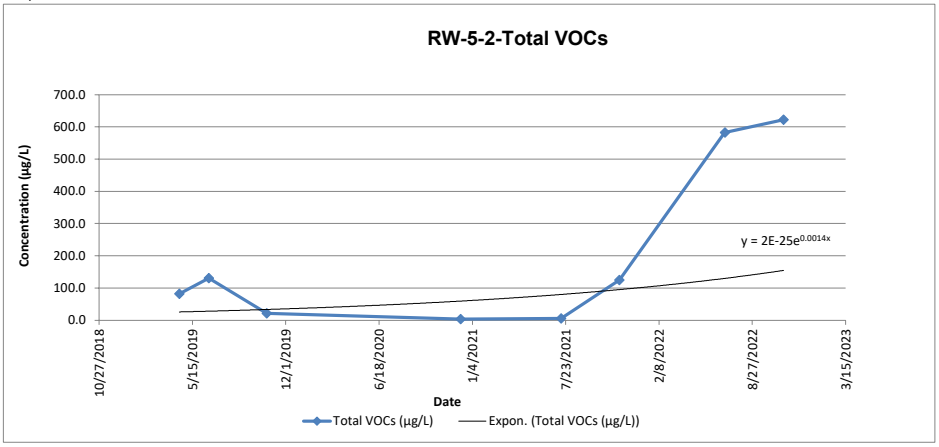
2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **No**
   2.b. Are single COCs less than 50 ug/L? — **No**

3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

Appendix E
Analytical Data for Well Termination
Site 5
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	RW-5-2							
Sample Date			4/17/2019	6/19/2019	10/21/2019	12/10/2020	7/13/2021	11/15/2021	6/29/2022	11/2/2022
Parameter										
1,1-Dichloroethene	µg/L	5	U	U	U	U	R	U	U	U
1,4-Dioxane	µg/L	NS	U	U	U	--	--	--	--	--
2-Butanone (MEK)	µg/L	50	U	U	U	U	R	U	U	U
Acetone	µg/L	50	U	U	U	U	5.2 J-	U	U	U
Benzene	µg/L	1	U	U	U	U	R	U	U	U
Carbon Disulfide	µg/L	60	U	U	U	U	R	0.34 J	0.39 J	U
Chloroethane	µg/L	5	U	U	U	U	R	U	U	U
Chloroform	µg/L	7	U	U	U	U	R	U	U	U
cis-1,2-Dichloroethene	µg/L	5	28.55	59.55	4	0.91 J	0.47 J-	28.7	358	106
Dichloromethane	µg/L	5	U	U	U	U	R	U	U	U
Iodomethane	µg/L	5	U	U	U	U	R	0.97 J	U	U
Methyl N-Butyl Ketone (2-Hexanone	µg/L	50	U	U	U	U	R	U	U	U
Toluene	µg/L	5	U	U	U	U	R	U	U	U
trans-1,2-Dichloroethene	µg/L	5	U	U	U	U	R	U	0.71 J	U
Trichloroethene	µg/L	5	U	U	0.55 J	U	R	0.63 J	U	U
Vinyl chloride	µg/L	2	53.6	71.25	16.9	2.9	R	94.6	223	516
Total VOCs	µg/L		**82.15**	**130.8**	**21.45**	**3.81**	**5.67**	**125.24**	**582.1**	**622**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. J = Estimated value
5. J- = Estimated value that may be biased low
6. R = Rejected
7. U = Non Detect
8. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **No**

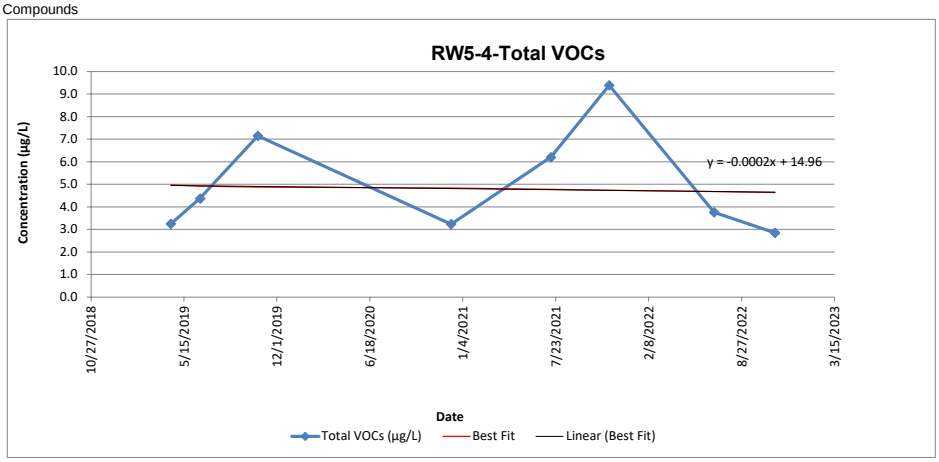
2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **No**
   2.b. Are single COCs less than 50 ug/L? — **No**

3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

Appendix E
Analytical Data for Well Termination
Site 5
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	RW5-4							
Sample Date			4/17/2019	6/19/2019	10/21/2019	12/10/2020	7/13/2021	11/15/2021	6/29/2022	11/7/2022
Parameter										
1,1-Dichloroethene	µg/L	5	U	U	U	U	R	U	U	U
1,4-Dioxane	µg/L	NS	U	U	U	--	--	--	--	--
2-Butanone (MEK)	µg/L	50	U	U	U	U	R	U	U	U
Acetone	µg/L	50	U	U	U	U	3.5 J-	3.2 J	U	U
Benzene	µg/L	1	0.44 J	0.67	0.44 J	0.43 J	R	0.54 J	0.38 J	U
Carbon Disulfide	µg/L	60	U	U	U	U	R	0.35 J	0.68 J	U
Chloroethane	µg/L	5	U	U	U	U	R	U	U	U
Chloroform	µg/L	7	U	U	U	U	R	U	U	U
cis-1,2-Dichloroethene	µg/L	5	1.7	2.1	2.1	1.2	1.2 J-	1.2	0.89 J	1
Dichloromethane	µg/L	5	U	U	U	U	R	U	U	U
Iodomethane	µg/L	5	U	U	U	U	R	1.8 J+	U	U
Methyl N-Butyl Ketone (2-Hexanone	µg/L	50	U	U	2.8 J	U	R	U	U	U
Toluene	µg/L	5	1.1	1.6	1.8	1.6	1.5 J-	2.3	1.8	1.5
trans-1,2-Dichloroethene	µg/L	5	U	U	U	U	R	U	U	U
Trichloroethene	µg/L	5	U	U	U	U	R	U	U	U
Vinyl chloride	µg/L	2	U	U	U	U	R	U	U	0.35 J
Total VOCs	µg/L		**3.24**	**4.37**	**7.14**	**3.23**	**6.2**	**9.39**	**3.75**	**2.85**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. J = Estimated value
5. J- = Estimated value that may be biased low
6. J+ = Estimated value that may be biased high
7. R = Rejected
8. U = Non Detect
9. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **Yes**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **Yes**

2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **Yes***
   2.b. Are single COCs less than 50 ug/L? — **Yes***

3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

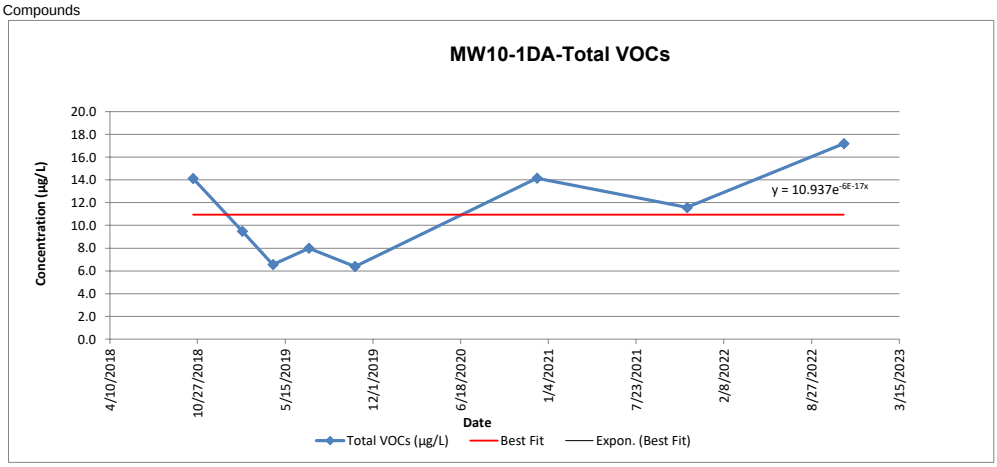
* - While the well achieves this critieria for the last eight monitoring events, these events do not include monitoring over four consecutive quarterly sampling events per Section 5.1.2 of the SMP.

Site 10

Appendix E
Analytical Data for Well Termination
Site 10
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	MW10-1DA							
Sample Date			10/17/2018	2/6/2019	4/17/2019	7/8/2019	10/21/2019	12/9/2020	11/16/2021	11/8/2022
Parameter										
1,1-Dichloroethene	µg/L	5	U	U	U	U	U	U	U	U
2-Butanone (MEK)	µg/L	50	U	U	U	U	U	U	U	U
2-Hexanone (MBK)	µg/L	50	U	U	U	U	U	U	U	U
Acetone	µg/L	50	U	U	U	U	U	U	U	U
Benzene	µg/L	1	4.9	3.6	2.7	2.95	3.5	3.8	4.4	3.2
Carbon Disulfide	µg/L	60	U	U	U	U	U	U	U	U
Chloroform	µg/L	7	U	U	U	U	U	U	U	U
Chloromethane	µg/L	5	U	U	U	U	U	U	U	U
cis-1,2-Dichloroethene	µg/L	5	0.56 J	U	U	U	U	0.9 J	0.71 J	3.2
Cyclohexane	µg/L	NS	U	U	U	U	U	0.33 J	0.425 J	U
Dichloromethane	µg/L	5	U	U	U	U	U	U	U	U
Ethylbenzene	µg/L	5	U	U	U	U	U	0.4 J	U	U
Iodomethane	µg/L	5	U	U	U	U	U	U	0.345 J	U
Methylcyclohexane	µg/L	NS	U	U	U	U	U	U	U	U
Toluene	µg/L	5	1.7	1.3	0.96 J	0.95 J	U	0.44 J	U	U
Total Xylenes	µg/L	5	2.9	2	0.79 J	1.15	U	3.7	1.65 J	U
trans-1,2-Dichloroethene	µg/L	5	0.66 J	U	U	U	U	0.48 J	U	U
Trichloroethene	µg/L	5	U	U	U	U	U	U	U	U
Vinyl chloride	µg/L	2	3.4	2.6	2.1	2.95	2.9	4.1	4.05	10.8
Total VOCs	µg/L		**14.12**	**9.5**	**6.55**	**8**	**6.4**	**14.15**	**11.58**	**17.2**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. J = Estimated value
5. U = Non-detect
6. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **Yes**

2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **Yes***
   2.b. Are single COCs less than 50 ug/L? — **Yes***

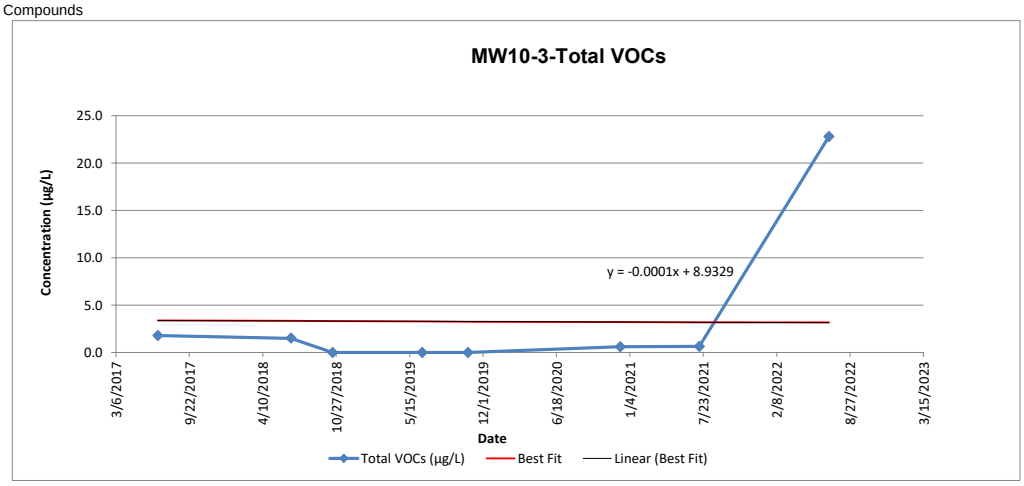
3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

* - While the well achieves this critieria for the last eight monitoring events, these events do not include monitoring over four consecutive quarterly sampling events per Section 5.1.2 of the SMP.

Appendix E
Analytical Data for Well Termination
Site 10
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	MW10-3							
Sample Date			6/28/2017	6/26/2018	10/17/2018	6/18/2019	10/21/2019	12/9/2020	7/12/2021	6/30/2022
Parameter										
1,1-Dichloroethene	µg/L	5	U	U	U	U	U	U	R	U
2-Butanone (MEK)	µg/L	50	U	U	U	U	U	U	R	U
2-Hexanone (MBK)	µg/L	50	U	U	U	U	U	U	R	U
Acetone	µg/L	50	U	U	U	U	U	U	R	22.2
Benzene	µg/L	1	U	U	U	U	U	U	R	U
Carbon Disulfide	µg/L	60	U	U	U	U	U	U	R	U
Chloroform	µg/L	7	U	U	U	U	U	U	R	U
Chloromethane	µg/L	5	U	U	U	U	U	U	R	U
cis-1,2-Dichloroethene	µg/L	5	0.68 J	1.5	U	U	U	U	R	0.6 J
Cyclohexane	µg/L	NS	U	U	U	U	U	U	R	U
Dichloromethane	µg/L	5	U	U	U	U	U	U	R	U
Ethylbenzene	µg/L	5	U	U	U	U	U	U	R	U
Iodomethane	µg/L	5	U	U	U	U	U	U	R	U
Methylcyclohexane	µg/L	NS	U	U	U	U	U	U	R	U
Toluene	µg/L	5	U	U	U	U	U	U	R	U
Total Xylenes	µg/L	5	U	U	U	U	U	U	R	U
trans-1,2-Dichloroethene	µg/L	5	U	U	U	U	U	U	R	U
Trichloroethene	µg/L	5	1.1	U	U	U	U	0.61 J	0.65 J-	U
Vinyl chloride	µg/L	2	U	U	U	U	U	U	R	U
Total VOCs	µg/L		**1.78**	**1.5**	**0**	**0**	**0**	**0.61**	**0.65**	**22.8**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. J = Estimated value
5. J- = Estimated value, result may be biased low
6. R = Rejected
7. U = Non-detect
8. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **Yes**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **Yes**

2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **Yes***
   2.b. Are single COCs less than 50 ug/L? — **Yes***

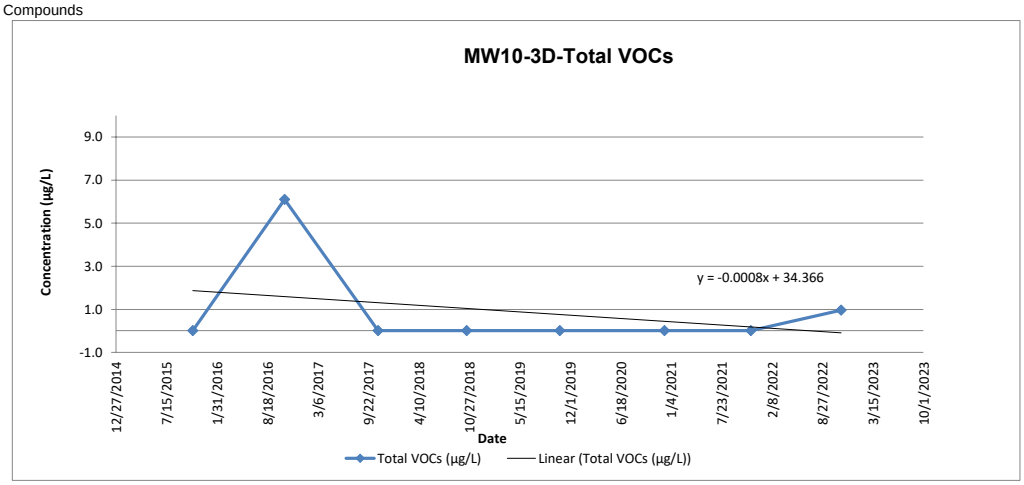
3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

* - While the well achieves this critieria for the last eight monitoring events, these events do not include monitoring over four consecutive quarterly sampling events per Section 5.1.2 of the SMP.

Appendix E
Analytical Data for Well Termination
Site 10
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	MW10-3D							
Sample Date			10/27/2015	10/25/2016	10/31/2017	10/17/2018	10/21/2019	12/9/2020	11/16/2021	11/8/2022
Parameter										
1,1-Dichloroethene	µg/L	5	U	U	U	U	U	U	U	U
2-Butanone (MEK)	µg/L	50	U	U	U	U	U	U	U	U
2-Hexanone (MBK)	µg/L	50	U	U	U	U	U	U	U	U
Acetone	µg/L	50	U	5 J	U	U	U	U	U	U
Benzene	µg/L	1	U	U	U	U	U	U	U	U
Carbon Disulfide	µg/L	60	U	U	U	U	U	U	U	U
Chloroform	µg/L	7	U	U	U	U	U	U	U	U
Chloromethane	µg/L	5	U	1.1 J	U	U	U	U	U	U
cis-1,2-Dichloroethene	µg/L	5	U	U	U	U	U	U	U	U
Cyclohexane	µg/L	NS	U	U	U	U	U	U	U	U
Dichloromethane	µg/L	5	U	U	U	U	U	U	U	U
Ethylbenzene	µg/L	5	U	U	U	U	U	U	U	U
Iodomethane	µg/L	5	U	U	U	U	U	U	U	0.96 J
Methylcyclohexane	µg/L	NS	U	U	U	U	U	U	U	U
Toluene	µg/L	5	U	U	U	U	U	U	U	U
Total Xylenes	µg/L	5	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	µg/L	5	U	U	U	U	U	U	U	U
Trichloroethene	µg/L	5	U	U	U	U	U	U	U	U
Vinyl chloride	µg/L	2	U	U	U	U	U	U	U	U
Total VOCs	µg/L		**0**	**6.1**	**0**	**0**	**0**	**0**	**0**	**0.96**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. J = Estimated value
5. U = Non-detect
6. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **Yes**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **Yes**

2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **Yes***
   2.b. Are single COCs less than 50 ug/L? — **Yes***

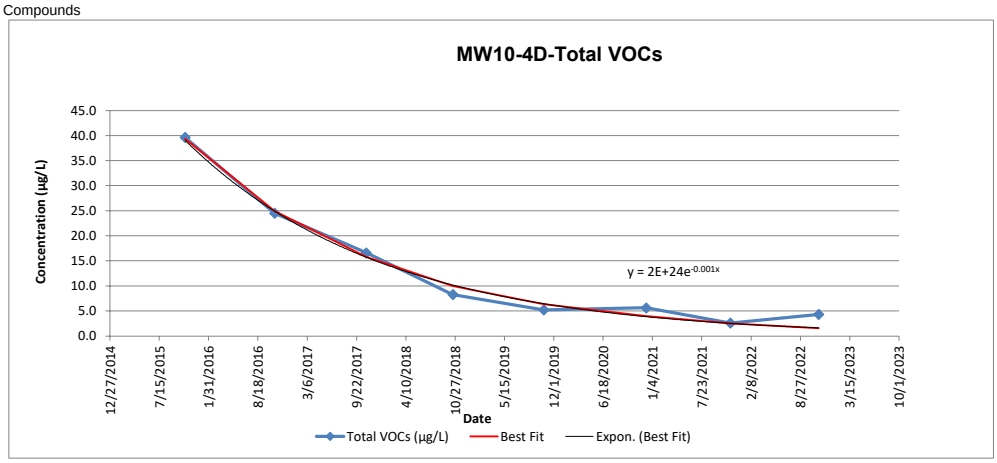
3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

* - While the well achieves this critieria for the last eight monitoring events, these events do not include monitoring over four consecutive quarterly sampling events per Section 5.1.2 of the SMP.

Appendix e
Analytical Data for Well Termination
Site 10
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	MW10-4D							
Sample Date			10/27/2015	10/25/2016	10/31/2017	10/17/2018	10/21/2019	12/9/2020	11/16/2021	11/8/2022
Parameter										
1,1-Dichloroethene	µg/L	5	U	U	U	U	U	U	U	U
2-Butanone (MEK)	µg/L	50	U	U	U	U	U	U	U	U
2-Hexanone (MBK)	µg/L	50	U	U	U	U	U	U	U	U
Acetone	µg/L	50	12.2 J	10.4	14.3 J	U	U	U	U	U
Benzene	µg/L	1	U	0.79	0.56 J	0.47 J	U	1.3	0.97 J	1.3
Carbon Disulfide	µg/L	60	0.5 JB	9.4	U	U	U	U	U	U
Chloroform	µg/L	7	U	U	U	U	U	U	U	U
Chloromethane	µg/L	5	U	U	U	U	U	U	U	U
cis-1,2-Dichloroethene	µg/L	5	13.1	1.3	1.3	2.6	1.5	0.83 J	0.44 J	3.7
Cyclohexane	µg/L	NS	U	2.6 J	U	U	U	U	U	U
Dichloromethane	µg/L	5	U	U	U	U	U	U	U	U
Ethylbenzene	µg/L	5	U	U	U	U	U	U	U	U
Iodomethane	µg/L	5	U	U	U	U	U	U	U	U
Methylcyclohexane	µg/L	NS	U	U	U	U	U	U	U	U
Toluene	µg/L	5	U	U	0.44 J	U	U	U	U	U
Total Xylenes	µg/L	5	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	µg/L	5	U	U	U	U	U	U	U	U
Trichloroethene	µg/L	5	0.41 J	U	U	U	U	U	U	U
Vinyl chloride	µg/L	2	13.4	U	U	5.2	3.7	3.5	1.2	4.3
Total VOCs	µg/L		**39.61**	**24.49**	**16.6**	**8.27**	**5.2**	**5.63**	**2.61**	**9.3**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. B = Method and/or trip blank contamination
5. J = Estimated value
6. U = Non-detect
7. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **Yes**

2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **Yes***
   2.b. Are single COCs less than 50 ug/L? — **Yes***

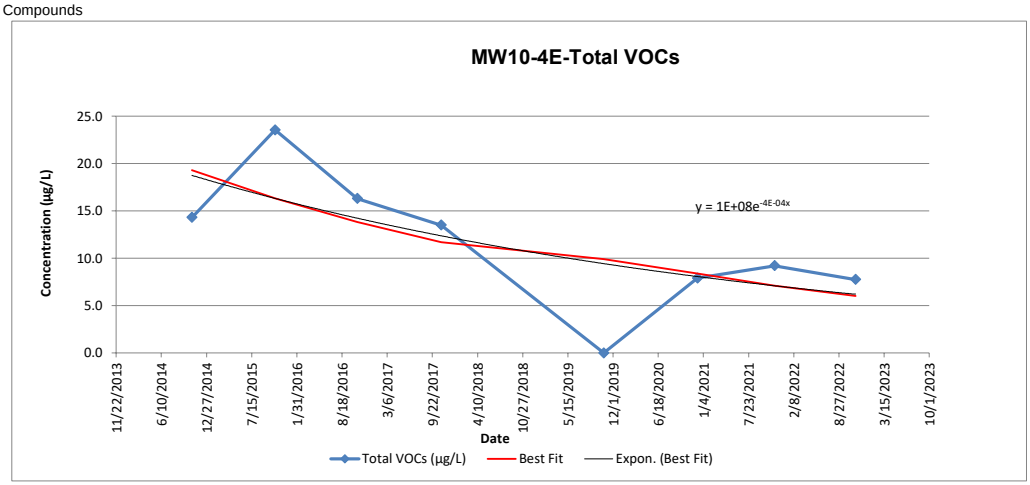
3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

* - While the well achieves this critieria for the last eight monitoring events, these events do not include monitoring over four consecutive quarterly sampling events per Section 5.1.2 of the SMP.

Appendix E
Analytical Data for Well Termination
Site 10
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	MW10-4E							
Sample Date			10/23/2014	10/27/2015	10/25/2016	10/31/2017	10/21/2019	12/9/2020	11/16/2021	11/8/2022
Parameter										
1,1-Dichloroethene	µg/L	5	U	U	U	U	U	U	U	U
2-Butanone (MEK)	µg/L	50	U	U	U	U	U	U	U	U
2-Hexanone (MBK)	µg/L	50	U	U	U	U	U	U	U	U
Acetone	µg/L	50	U	U	U	U	U	U	U	U
Benzene	µg/L	1	U	U	U	U	U	U	U	U
Carbon Disulfide	µg/L	60	U	0.45 JB	U	U	U	U	U	U
Chloroform	µg/L	7	U	U	U	U	U	U	U	U
Chloromethane	µg/L	5	U	U	U	U	U	U	U	U
cis-1,2-Dichloroethene	µg/L	5	9.5	17.8	13.2	10.6	U	6.7	7.8	7.2
Cyclohexane	µg/L	NS	U	U	U	U	U	U	U	U
Dichloromethane	µg/L	5	U	U	U	U	U	U	U	U
Ethylbenzene	µg/L	5	U	U	U	U	U	U	U	U
Iodomethane	µg/L	5	U	U	U	U	U	U	U	U
Methylcyclohexane	µg/L	NS	U	U	U	U	U	U	U	U
Toluene	µg/L	5	U	U	U	U	U	U	U	U
Total Xylenes	µg/L	5	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	µg/L	5	U	0.27 J	U	U	U	U	U	U
Trichloroethene	µg/L	5	U	U	U	U	U	U	U	U
Vinyl chloride	µg/L	2	4.8	5	3.1	2.9	U	1.2	1.4	0.55 J
Total VOCs	µg/L		**14.3**	**23.52**	**16.3**	**13.5**	**0**	**7.9**	**9.2**	**7.75**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. B = Method and/or trip blank contamination
5. J = Estimated value
6. U = Non-detect
7. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **Yes**

2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **Yes***
   2.b. Are single COCs less than 50 ug/L? — **Yes***

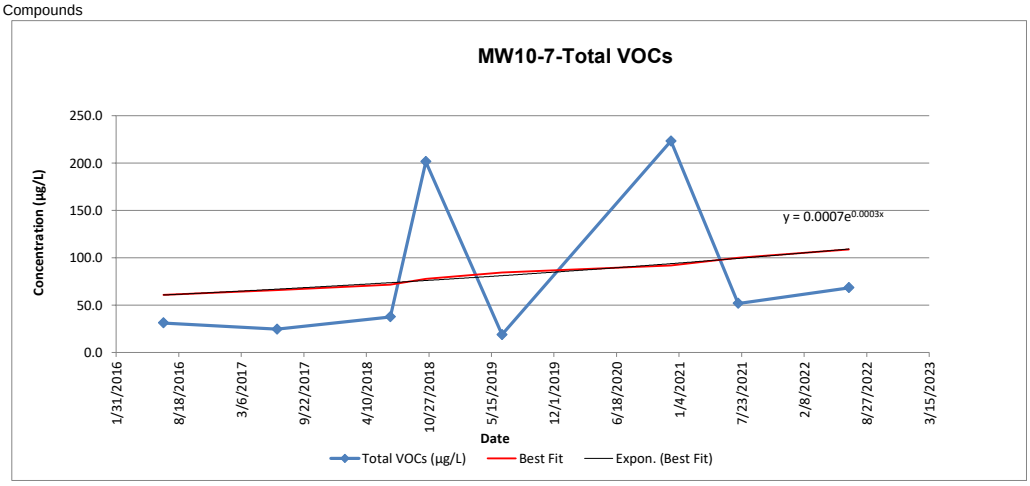
3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

* - While the well achieves this critieria for the last eight monitoring events, these events do not include monitoring over four consecutive quarterly sampling events per Section 5.1.2 of the SMP.

Appendix E
Analytical Data for Well Termination
Site 10
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	MW10-7							
Sample Date			6/30/2016	6/28/2017	6/26/2018	10/17/2018	6/18/2019	12/9/2020	7/12/2021	6/30/2022
Parameter										
1,1-Dichloroethene	µg/L	5	U	U	U	6.1	U	1.3	R	0.65 J
2-Butanone (MEK)	µg/L	50	U	U	U	U	U	U	R	U
2-Hexanone (MBK)	µg/L	50	U	U	U	U	U	U	R	U
Acetone	µg/L	50	6.4 J	U	U	U	U	U	5.0 J-	22.8
Benzene	µg/L	1	U	U	U	0.66	U	1.3	R	U
Carbon Disulfide	µg/L	60	U	U	U	U	U	0.58 J	R	U
Chloroform	µg/L	7	U	U	U	U	U	U	R	U
Chloromethane	µg/L	5	U	U	U	U	U	U	R	U
cis-1,2-Dichloroethene	µg/L	5	10.6	16.8	23.4	139	18.9	174	33.2 J-	32.9
Cyclohexane	µg/L	NS	U	U	U	U	U	0.61 J	R	U
Dichloromethane	µg/L	5	U	U	U	U	U	U	R	U
Ethylbenzene	µg/L	5	U	U	U	U	U	U	R	U
Iodomethane	µg/L	5	U	U	U	U	U	U	R	U
Methylcyclohexane	µg/L	NS	U	U	U	U	U	1.2	R	U
Toluene	µg/L	5	U	U	U	U	U	1	R	U
Total Xylenes	µg/L	5	U	U	U	U	U	U	R	U
trans-1,2-Dichloroethene	µg/L	5	U	0.68 J	0.81 J	0.86 J	U	0.37 J	0.82 J-	2.1
Trichloroethene	µg/L	5	14.2	22.1	13.4	14.3	U	1.5	12.8 J-	1.7
Vinyl chloride	µg/L	2	U	U	U	40.6	U	41.2	R	8.3
Total VOCs	µg/L		**31.2**	**24.58**	**37.61**	**201.52**	**18.9**	**223.06**	**51.82**	**68.45**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. J = Estimated value
5. J- = Estimated value, result may be biased low
6. R = Rejected
7. U = Non-detect
8. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **No**

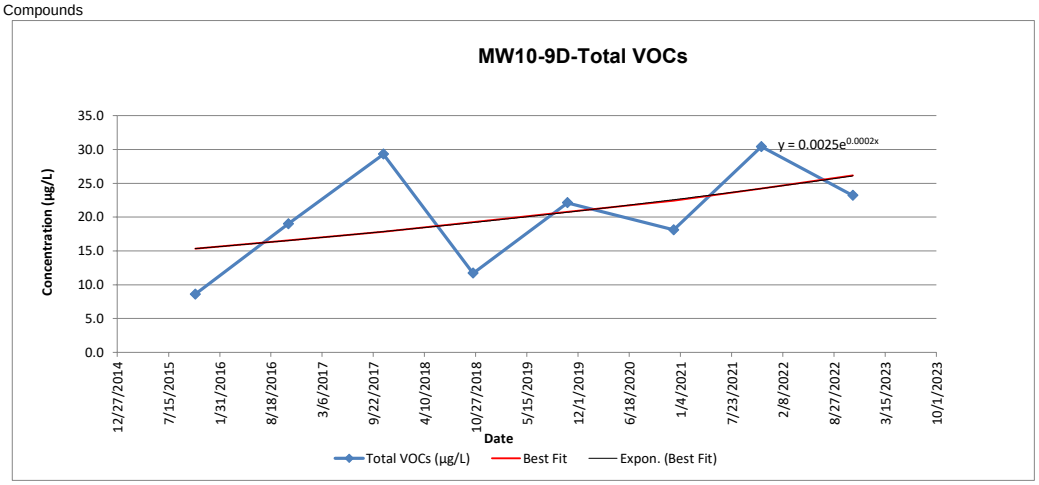
2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **No**
   2.b. Are single COCs less than 50 ug/L? — **No**

3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

Appendix E
Analytical Data for Well Termination
Site 10
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	MW10-9D							
Sample Date			10/27/2015	10/25/2016	10/31/2017	10/17/2018	10/21/2019	12/9/2020	11/16/2021	11/8/2022
Parameter										
1,1-Dichloroethene	µg/L	5	U	U	U	U	U	U	U	U
2-Butanone (MEK)	µg/L	50	U	U	U	U	U	U	U	U
2-Hexanone (MBK)	µg/L	50	U	U	U	U	U	U	U	U
Acetone	µg/L	50	U	4.6 J	10.4 J	U	U	U	U	U
Benzene	µg/L	1	U	U	U	U	U	U	U	U
Carbon Disulfide	µg/L	60	U	U	U	U	U	U	U	U
Chloroform	µg/L	7	U	U	U	U	U	U	U	U
Chloromethane	µg/L	5	U	U	U	U	U	U	U	U
cis-1,2-Dichloroethene	µg/L	5	7.3	10.3	10.2	6.1	10.2	7.2	10.9	6.6
Cyclohexane	µg/L	NS	U	U	U	U	U	U	U	U
Dichloromethane	µg/L	5	U	U	U	U	U	U	U	U
Ethylbenzene	µg/L	5	U	U	U	U	U	U	U	U
Iodomethane	µg/L	5	U	U	U	U	U	U	U	U
Methylcyclohexane	µg/L	NS	U	U	U	U	U	U	U	U
Toluene	µg/L	5	U	U	U	U	U	U	U	U
Total Xylenes	µg/L	5	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	µg/L	5	U	U	U	U	U	U	U	U
Trichloroethene	µg/L	5	U	U	U	U	U	U	U	U
Vinyl chloride	µg/L	2	1.3	4.1	8.7	5.6	11.9	10.9	19.5	16.6
Total VOCs	µg/L		**8.6**	**19**	**29.3**	**11.7**	**22.1**	**18.1**	**30.4**	**23.2**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. J = Estimated value
5. U = Non-detect
6. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **No**

2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **Yes***
   2.b. Are single COCs less than 50 ug/L? — **Yes***

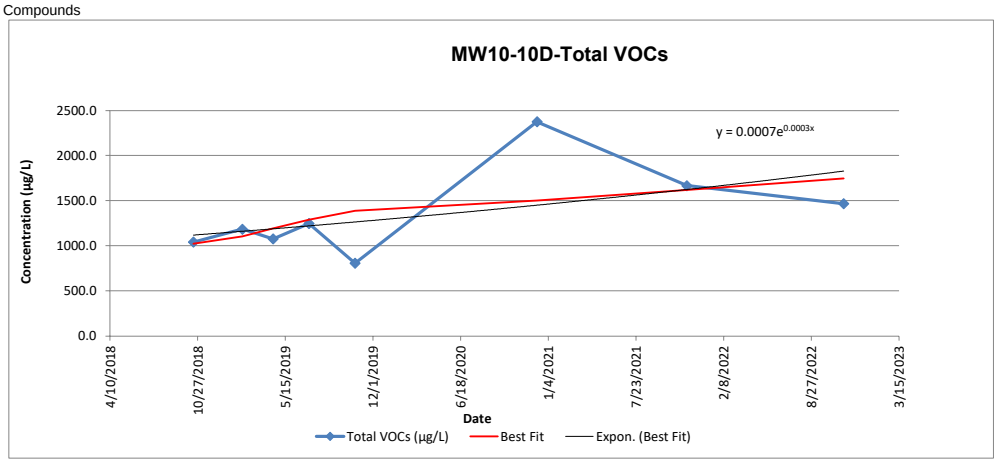
3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

* - While the well achieves this critieria for the last eight monitoring events, these events do not include monitoring over four consecutive quarterly sampling events per Section 5.1.2 of the SMP.

Appendix E
Analytical Data for Well Termination
Site 10
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	MW10-10D							
Sample Date			10/17/2018	2/6/2019	4/17/2019	7/8/2019	10/21/2019	12/9/2020	11/16/2021	11/8/2022
Parameter										
1,1-Dichloroethene	µg/L	5	U	U	1.3	U	U	U	U	U
2-Butanone (MEK)	µg/L	50	28.6	U	19	83.4 J	U	37.7 J	U	U
2-Hexanone (MBK)	µg/L	50	22	10.6 J	8.8	25.1	U	381	73.6 J	819
Acetone	µg/L	50	U	U	U	U	20.7 J	U	U	U
Benzene	µg/L	1	1.8	U	1.6	1.7	1.9	U	U	U
Carbon Disulfide	µg/L	60	U	U	U	U	U	U	U	U
Chloroform	µg/L	7	U	U	U	U	U	U	U	29.2
Chloromethane	µg/L	5	U	U	U	U	U	U	U	U
cis-1,2-Dichloroethene	µg/L	5	856	954 J	826	921	638	1580 J+	1320	534
Cyclohexane	µg/L	NS	U	U	U	U	U	U	U	U
Dichloromethane	µg/L	5	U	U	1.4 J	U	U	U	U	U
Ethylbenzene	µg/L	5	U	U	U	U	U	U	U	U
Iodomethane	µg/L	5	U	U	U	U	U	U	U	U
Methylcyclohexane	µg/L	NS	U	U	U	U	U	U	U	U
Toluene	µg/L	5	9.1	7.9	6.6	5.7	3.6	14.5 J	19.1 J	16.5 J
Total Xylenes	µg/L	5	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	µg/L	5	4.6	5.8	6.2	5.8	3.2	16 J	11.7 J	U
Trichloroethene	µg/L	5	16.9	18.1	15.5	12.6	9.4	47.6	45.2	24.8
Vinyl chloride	µg/L	2	101	188	189	191	132	296	197	42.2
Total VOCs	µg/L		**1040**	**1184.4**	**1075.4**	**1246.3**	**808.8**	**2372.8**	**1666.6**	**1465.7**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. J = Estimated value
5. J+ = Estimated value, result may be biased high
6. U = Non-detect
7. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **No**

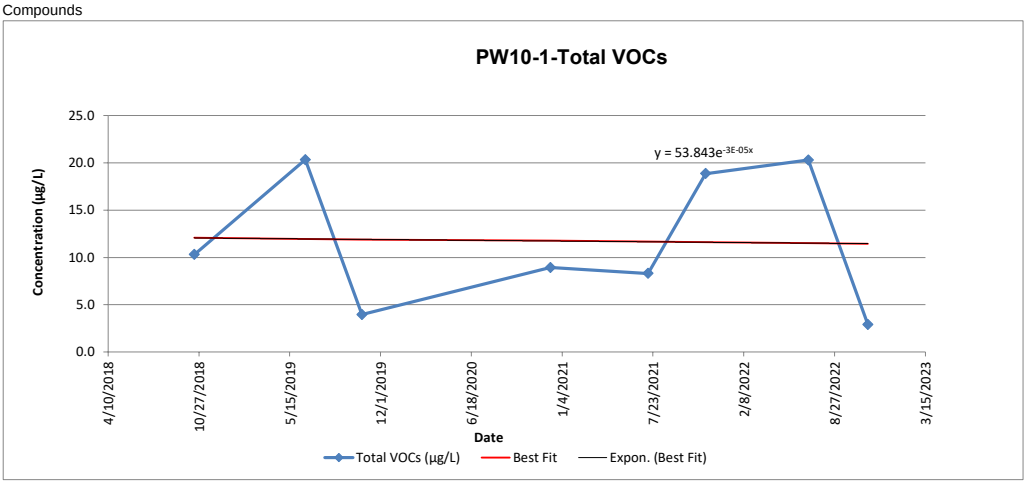
2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **No**
   2.b. Are single COCs less than 50 ug/L? — **No**

3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

Appendix E
Analytical Data for Well Termination
Site 10
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	PW10-1							
Sample Date			10/17/2018	6/18/2019	10/21/2019	12/9/2020	7/12/2021	11/16/2021	6/30/2022	11/8/2022
Parameter										
1,1-Dichloroethene	µg/L	5	U	U	U	U	R	U	U	U
2-Butanone (MEK)	µg/L	50	U	U	U	U	R	U	U	U
2-Hexanone (MBK)	µg/L	50	U	U	U	U	R	U	U	U
Acetone	µg/L	50	U	U	U	7 BJ+	R	U	15.8	U
Benzene	µg/L	1	U	U	U	U	R	0.36 J	U	U
Carbon Disulfide	µg/L	60	U	U	U	0.36 J	R	U	U	U
Chloroform	µg/L	7	U	U	U	U	R	U	U	U
Chloromethane	µg/L	5	U	U	U	U	R	U	U	U
cis-1,2-Dichloroethene	µg/L	5	1	4.5	U	0.72 J	3.1 J-	4.5	2.1	1.1
Cyclohexane	µg/L	NS	U	U	U	U	R	U	U	U
Dichloromethane	µg/L	5	U	U	U	U	R	U	U	U
Ethylbenzene	µg/L	5	U	U	U	U	R	U	U	U
Iodomethane	µg/L	5	U	U	U	U	R	3.6	U	U
Methylcyclohexane	µg/L	NS	U	U	U	U	R	U	U	U
Toluene	µg/L	5	U	U	U	U	R	U	U	U
Total Xylenes	µg/L	5	U	U	U	U	R	U	U	U
trans-1,2-Dichloroethene	µg/L	5	1.2	1.1	0.65 J	U	R	U	U	U
Trichloroethene	µg/L	5	U	0.94 J	U	U	R	U	U	U
Vinyl chloride	µg/L	2	8.1	13.8	3.3	0.85 J	5.2 J-	10.4	2.4	1.8
Total VOCs	µg/L		**10.3**	**20.34**	**3.95**	**8.93**	**8.3**	**18.86**	**20.3**	**2.9**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. B = Method and/or trip blank contamination
5. J = Estimated value
6. J- = Estimated value, result may be biased low
7. J+ = Estimated value, result may be biased high
8. R = Rejected
9. U = Non-detect
10. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **Yes**

2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **Yes***
   2.b. Are single COCs less than 50 ug/L? — **Yes***

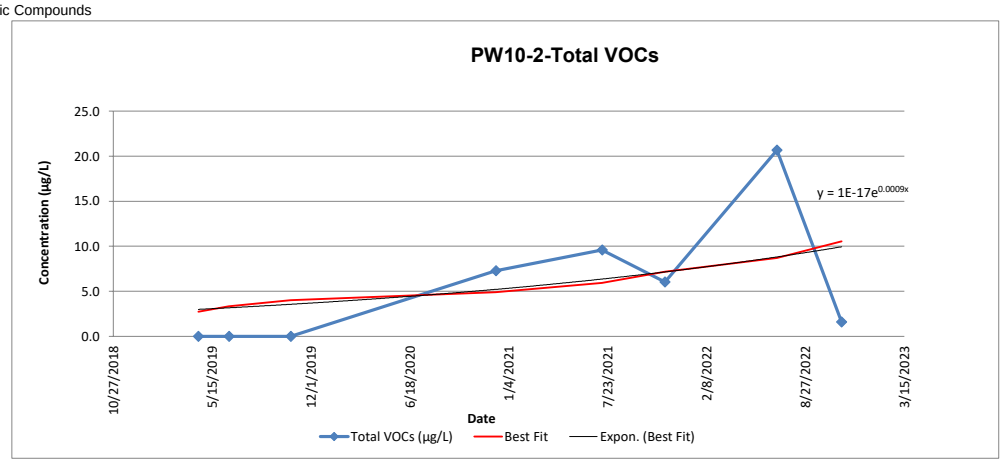
3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

* - While the well achieves this critieria for the last eight monitoring events, these events do not include monitoring over four consecutive quarterly sampling events per Section 5.1.2 of the SMP.

Appendix E
Analytical Data for Well Termination
Site 10
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	PW10-2							
Sample Date			4/17/2019	6/18/2019	10/21/2019	12/9/2020	7/12/2021	11/16/2021	6/30/2022	11/8/2022
Parameter										
1,1-Dichloroethene	µg/L	5	U	U	U	U	R	U	U	U
2-Butanone (MEK)	µg/L	50	U	U	U	U	R	U	U	U
2-Hexanone (MBK)	µg/L	50	U	U	U	U	R	U	U	U
Acetone	µg/L	50	U	U	U	5.4 BJ+	3.7 J-	U	20.2	U
Benzene	µg/L	1	U	U	U	1.5	3.9 J-	2.8	0.48 J	1.6
Carbon Disulfide	µg/L	60	U	U	U	U	R	U	U	U
Chloroform	µg/L	7	U	U	U	U	R	U	U	U
Chloromethane	µg/L	5	U	U	U	U	R	U	U	U
cis-1,2-Dichloroethene	µg/L	5	U	U	U	U	R	U	U	U
Cyclohexane	µg/L	NS	U	U	U	U	0.51 J-	0.50 J	U	U
Dichloromethane	µg/L	5	U	U	U	U	R	U	U	U
Ethylbenzene	µg/L	5	U	U	U	0.38 J	0.61 J-	0.45 J	U	U
Iodomethane	µg/L	5	U	U	U	U	R	0.87 J	U	U
Methylcyclohexane	µg/L	NS	U	U	U	U	R	U	U	U
Toluene	µg/L	5	U	U	U	U	0.88 J-	0.43 J	U	U
Total Xylenes	µg/L	5	U	U	U	U	R	U	U	U
trans-1,2-Dichloroethene	µg/L	5	U	U	U	U	R	U	U	U
Trichloroethene	µg/L	5	U	U	U	U	R	U	U	U
Vinyl chloride	µg/L	2	U	U	U	U	R	1.0	U	U
Total VOCs	µg/L		**0**	**0**	**0**	**7.28**	**9.6**	**6.05**	**20.68**	**1.6**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. B = Method and/or trip blank contamination
5. J = Estimated value
6. J- = Estimated value, result may be biased low
7. J+ = Estimated value, result may be biased high
8. R = Rejected
9. U = Non-detect
10. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **No**

2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **Yes***
   2.b. Are single COCs less than 50 ug/L? — **Yes***

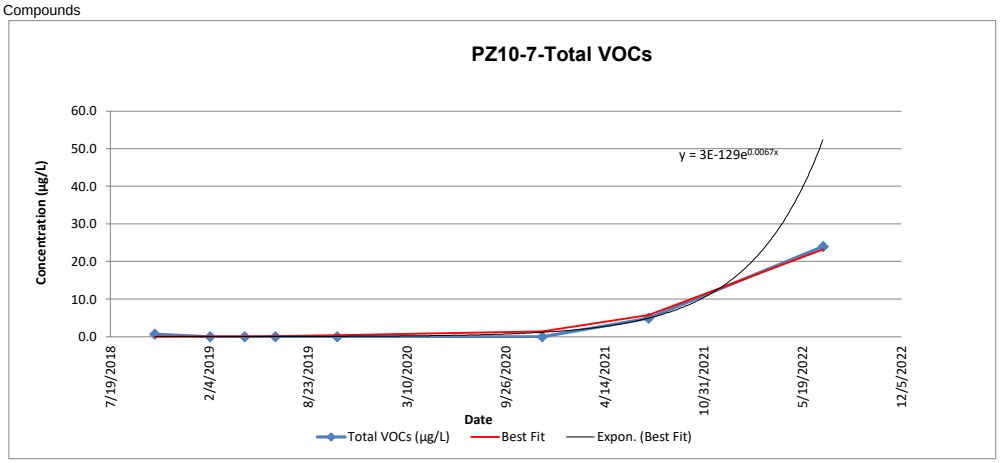
3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

* - While the well achieves this critieria for the last eight monitoring events, these events do not include monitoring over four consecutive quarterly sampling events per Section 5.1.2 of the SMP.

Appendix E
Analytical Data for Well Termination
Site 10
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	PZ10-7							
Sample Date			10/17/2018	2/6/2019	4/17/2019	6/18/2019	10/21/2019	12/9/2020	7/12/2021	6/30/2022
Parameter										
1,1-Dichloroethene	µg/L	5	U	U	U	U	U	U	R	U
2-Butanone (MEK)	µg/L	50	U	U	U	U	U	U	R	U
2-Hexanone (MBK)	µg/L	50	U	U	U	U	U	U	R	U
Acetone	µg/L	50	U	U	U	U	U	U	4.9 J-	24
Benzene	µg/L	1	U	U	U	U	U	U	R	U
Carbon Disulfide	µg/L	60	U	U	U	U	U	U	R	U
Chloroform	µg/L	7	U	U	U	U	U	U	R	U
Chloromethane	µg/L	5	U	U	U	U	U	U	R	U
cis-1,2-Dichloroethene	µg/L	5	0.66 J	U	U	U	U	U	R	U
Cyclohexane	µg/L	NS	U	U	U	U	U	U	R	U
Dichloromethane	µg/L	5	U	U	U	U	U	U	R	U
Ethylbenzene	µg/L	5	U	U	U	U	U	U	R	U
Iodomethane	µg/L	5	U	U	U	U	U	U	R	U
Methylcyclohexane	µg/L	NS	U	U	U	U	U	U	R	U
Toluene	µg/L	5	U	U	U	U	U	U	R	U
Total Xylenes	µg/L	5	U	U	U	U	U	U	R	U
trans-1,2-Dichloroethene	µg/L	5	U	U	U	U	U	U	R	U
Trichloroethene	µg/L	5	U	U	U	U	U	U	R	U
Vinyl chloride	µg/L	2	U	U	U	U	U	U	R	U
Total VOCs	µg/L		**0.66**	**0**	**0**	**0**	**0**	**0**	**4.9**	**24**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. J = Estimated value
5. J- = Estimated value, result may be biased low
6. R = Rejected
7. U = Non-detect
8. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **Yes**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **No**

2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **Yes***
   2.b. Are single COCs less than 50 ug/L? — **Yes***

3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

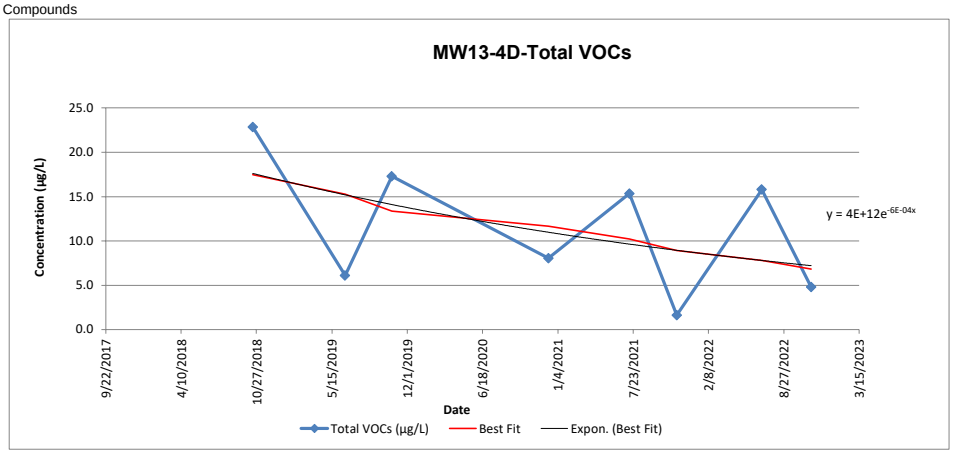
* - While the well achieves this critieria for the last eight monitoring events, these events do not include monitoring over four consecutive quarterly sampling events per Section 5.1.2 of the SMP.

Site 13

Appendix E
Analytical Data for Well Termination
Site 13
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	MW13-4D							
Sample Date			10/17/2018	6/19/2019	10/21/2019	12/10/2020	7/13/2021	11/16/2021	6/29/2022	11/7/2022
Parameter										
1,2-Dichlorobenzene	µg/L	5	U	U	U	U	R	U	U	U
1,3-Dichlorobenzene	µg/L	5	U	U	U	U	R	U	U	U
1,4-Dichlorobenzene	µg/L	5	U	U	U	U	R	U	U	U
2-Butanone (MEK)	µg/L	50	U	U	U	U	R	U	U	U
2-Hexanone (MBK)	µg/L	50	U	U	U	U	R	U	U	U
Acetone	µg/L	50	U	U	U	U	4.35 J-	U	U	U
Benzene	µg/L	1	0.44 J	U	U	U	R	U	U	U
Chlorobenzene	µg/L	5	U	U	U	U	R	U	U	U
cis-1,2-Dichloroethene	µg/L	5	12.1	4.5	10	8.05	6.1 J-	U	10.1	4.8
Iodomethane	µg/L	5	U	U	U	U	R	U	U	U
trans-1,2-Dichloroethene	µg/L	5	U	U	U	U	R	U	U	U
Trichloroethene	µg/L	5	U	U	U	U	R	U	U	U
Vinyl chloride	µg/L	2	10.3	1.6	7.3	U	4.9 J-	1.6	5.7	U
Total VOCs	µg/L		**22.84**	**6.1**	**17.3**	**8.05**	**15.35**	**1.6**	**15.8**	**4.8**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. J = Estimated value
5. J- = Estimated value, result may be biased low
6. R = Rejected
7. U = Non-detect
8. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **Yes**

2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **Yes***
   2.b. Are single COCs less than 50 ug/L? — **Yes***

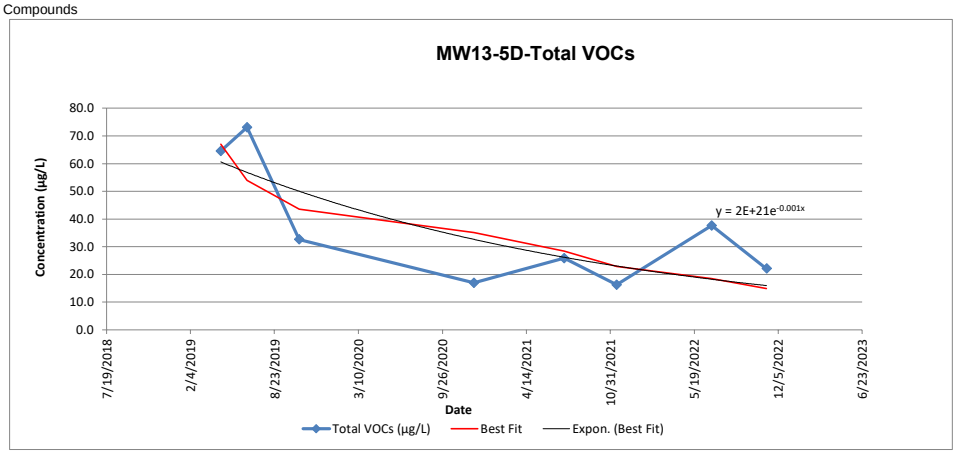
3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

* - While the well achieves this critieria for the last eight monitoring events, these events do not include monitoring over four consecutive quarterly sampling events per Section 5.1.2 of the SMP.

Appendix E
Analytical Data for Well Termination
Site 13
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	MW13-5D							
Sample Date			4/17/2019	6/19/2019	10/21/2019	12/10/2020	7/13/2021	11/15/2021	6/29/2022	11/7/2022
Parameter										
1,2-Dichlorobenzene	µg/L	5	U	U	U	U	R	U	U	U
1,3-Dichlorobenzene	µg/L	5	U	U	U	U	R	U	U	U
1,4-Dichlorobenzene	µg/L	5	U	U	U	U	R	U	U	U
2-Butanone (MEK)	µg/L	50	U	U	U	U	R	U	U	U
2-Hexanone (MBK)	µg/L	50	U	U	U	U	R	U	U	U
Acetone	µg/L	50	U	U	U	U	R	U	U	U
Benzene	µg/L	1	U	U	U	U	R	U	U	U
Chlorobenzene	µg/L	5	U	U	U	U	R	U	U	U
cis-1,2-Dichloroethene	µg/L	5	55.3	63.7	28.3	16.4	23.9 J-	14.6	36	21.6
Iodomethane	µg/L	5	U	U	U	U	R	1.7 J+	U	U
trans-1,2-Dichloroethene	µg/L	5	1.3	0.56 J	U	U	0.45 J-	U	0.39 J	U
Trichloroethene	µg/L	5	8	4.4	0.74 J	0.61 J	0.53 J-	U	U	U
Vinyl chloride	µg/L	2	U	4.5	3.6	U	0.99 J-	U	1.3	0.52 J
Total VOCs	µg/L		**64.6**	**73.16**	**32.64**	**17.01**	**25.87**	**16.3**	**37.69**	**22.12**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. J = Estimated value
5. J- = Estimated value, result may be biased low
6. J+ = Estimated value, result may be biased high
7. R = Rejected
8. U = Non-detect
9. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **Yes**

2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **Yes***
   2.b. Are single COCs less than 50 ug/L? — **No**

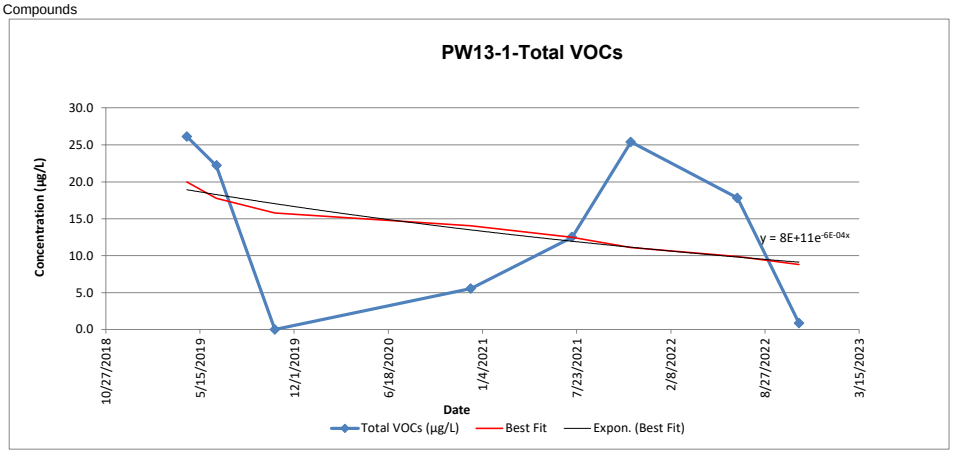
3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

* - While the well achieves this critieria for the last eight monitoring events, these events do not include monitoring over four consecutive quarterly sampling events per Section 5.1.2 of the SMP.

Appendix E
Analytical Data for Well Termination
Site 13
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	PW13-1							
Sample Date			4/17/2019	6/19/2019	10/21/2019	12/10/2020	7/13/2021	11/15/2021	6/29/2022	11/7/2022
Parameter										
1,2-Dichlorobenzene	µg/L	5	U	U	U	U	R	U	U	U
1,3-Dichlorobenzene	µg/L	5	U	U	U	U	R	U	U	U
1,4-Dichlorobenzene	µg/L	5	U	U	U	U	R	U	U	U
2-Butanone (MEK)	µg/L	50	U	U	U	U	R	U	U	U
2-Hexanone (MBK)	µg/L	50	U	U	U	U	R	U	U	U
Acetone	µg/L	50	U	U	U	U	4.4 J-	U	U	U
Benzene	µg/L	1	U	U	U	U	R	U	U	U
Chlorobenzene	µg/L	5	U	U	U	U	R	U	U	U
cis-1,2-Dichloroethene	µg/L	5	17.2	15.9	U	5.1	5.3 J-	10.2	11.7	0.85 J
Iodomethane	µg/L	5	U	U	U	U	R	1.1 J+	U	U
trans-1,2-Dichloroethene	µg/L	5	2	2.2	U	U	R	U	0.45 J	U
Trichloroethene	µg/L	5	1.3	U	U	U	R	U	0.97 J	U
Vinyl chloride	µg/L	2	5.6	4.1	U	0.45 J	2.8 J-	14.1	4.7	U
Total VOCs	µg/L		**26.1**	**22.2**	**0**	**5.55**	**12.5**	**25.4**	**17.82**	**0.85**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. J = Estimated value
5. J- = Estimated value, result may be biased low
6. J+ = Estimated value, result may be biased high
7. R = Rejected
8. U = Non-detect
9. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):

1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters?	**No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):

1. Does this well achieve "Zero Slope Condition" as defined in the permit?	
1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters	See above
1.b. Fit a trendline (either linear or exponential) using least squares regression model.	See above
1.c. The slope is less than or equal to zero.	**Yes**
2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?	
2.a. Is the total concentration of COCs less than 100 ug/L?	**Yes***
2.b. Are single COCs less than 50 ug/L?	**Yes***

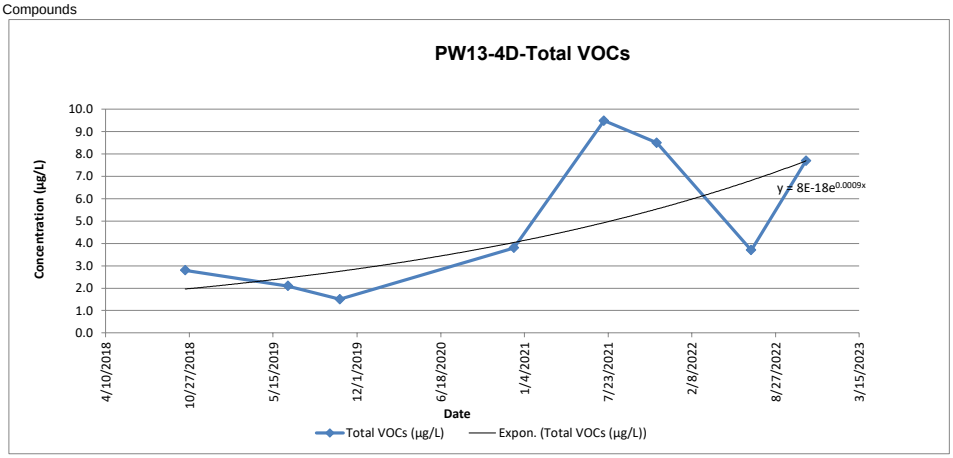
3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

* - While the well achieves this critieria for the last eight monitoring events, these events do not include monitoring over four consecutive quarterly sampling events per Section 5.1.2 of the SMP.

Appendix E
Analytical Data for Well Termination
Site 13
Niagara Falls Air Reserve Station, Niagara Falls, NY

Location ID	Unit	GPS	PW13-4D							
Sample Date			10/17/2018	6/19/2019	10/21/2019	12/10/2020	7/13/2021	11/16/2021	6/29/2022	11/7/2022
Parameter										
1,2-Dichlorobenzene	µg/L	5	U	U	U	U	R	U	U	U
1,3-Dichlorobenzene	µg/L	5	U	U	U	U	R	U	U	U
1,4-Dichlorobenzene	µg/L	5	U	U	U	U	R	U	U	U
2-Butanone (MEK)	µg/L	50	U	U	U	U	R	U	U	U
2-Hexanone (MBK)	µg/L	50	U	U	U	U	R	U	U	U
Acetone	µg/L	50	U	U	U	U	5.6 J-	U	U	U
Benzene	µg/L	1	U	U	U	U	R	U	U	U
Chlorobenzene	µg/L	5	U	U	U	U	R	U	U	U
cis-1,2-Dichloroethene	µg/L	5	2.8	2.1	1.5	3.8	3.5 J-	7.2	3.7	6.7
Iodomethane	µg/L	5	U	U	U	U	R	U	U	U
trans-1,2-Dichloroethene	µg/L	5	U	U	U	U	R	U	U	U
Trichloroethene	µg/L	5	U	U	U	U	R	U	U	U
Vinyl chloride	µg/L	2	U	U	U	U	0.39 J-	1.3	U	1
Total VOCs	µg/L		**2.8**	**2.1**	**1.5**	**3.8**	**9.49**	**8.5**	**3.7**	**7.7**

Notes:
1. Shaded Cells indicate exceedence of NYSDEC GPS for contaminants of concern as defined in the Site Management Plan
2. GPS = Groundwater Protection Standard
3. µg/L = micrograms per liter
4. J- = Estimated value, result may be biased low
5. R = Rejected
6. U = Non-detect
7. VOCs = Volatile Organic Compounds



Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well meet the termination criteria by achieving the GPSs for an equivalent of 8 quarters? **No**

Alternative Termination Criteria (Section 5.1.2 of the Site Management Plan):
1. Does this well achieve "Zero Slope Condition" as defined in the permit?
   1.a. Plot sum of concentration of hazardous waste constituents from an equivalent of 8 quarters — See above
   1.b. Fit a trendline (either linear or exponential) using least squares regression model. — See above
   1.c. The slope is less than or equal to zero. — **No**

2. Does this well achieve the analytical concentration criteria for a minimum of eight quarters?
   2.a. Is the total concentration of COCs less than 100 ug/L? — **Yes***
   2.b. Are single COCs less than 50 ug/L? — **Yes***

3. Will the residual groundwater contamination result in an unacceptable risk to human health and the environment? Provide analysis

* - While the well achieves this critieria for the last eight monitoring events, these events do not include monitoring over four consecutive quarterly sampling events per Section 5.1.2 of the SMP.

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