SUBMITTED TO:
The Krausz Companies LLC
3065 Jones Boulevard, Suite 100
Las Vegas, NV 89146

BY:
Shannon & Wilson
2355 Hill Road
Fairbanks, AK 99709

(907) 479-0600
www.shannonwilson.com

FINAL

2022 GROUNDWATER MONITORING REPORT

Bentley Mall East Satellite

FAIRBANKS, ALASKA

SHANNON & WILSON

October 2022

Shannon & Wilson No: 107889-002

Submitted To: The Krausz Companies LLC
3065 Jones Boulevard, Suite 100
Las Vegas, NV 89146
Attn: Daniel Krausz

Subject: FINAL 2022 GROUNDWATER MONITORING REPORT, BENTLEY MALL EAST SATELLITE, FAIRBANKS, ALASKA

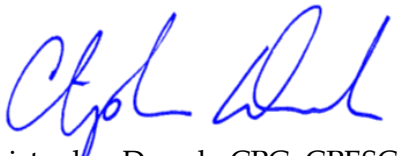
Shannon & Wilson prepared this report and participated in this project as a consultant to The Krausz Companies LLC. Our scope of services was specified in our proposal dated August 2, 2022. Our services are provided under Master Services Agreement Number KCI-2016 and the Task Order signed by you on August 2, 2022.

We appreciate the opportunity to be of service to you on this project. If you have questions concerning this report, or we may be of further service, please contact us.

Sincerely,

SHANNON & WILSON

Dana Fjare
Environmental Scientist



Christopher Darrah, CPG, CPESC
Vice President

DHF:MXJ:CBD/dhf

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ACRONYMS

AAC	Alaska Administrative Code
BMES	Bentley Mall East Satellite
cis-1,2-DCE	cis-1,2-dichloroethene
COC	chain-of-custody
COPC	contaminant of potential concern
Costco	Costco Wholesale
CSM	conceptual site model
°C	degrees Celsius
DEC	Alaska Department of Environmental Conservation
EPA	U.S. Environmental Protection Agency
ERG	Environmental Resource Group
LCS/LCSD	laboratory control sample / laboratory control sample duplicate
LDRC	Laboratory Data Review Checklist
LOD	limit of detection
LOQ	limit of quantitation
PAN	parcel account number
PCE	tetrachloroethene
QA/QC	quality assurance/quality control
RPD	relative percent difference
SGS	SGS North America, Inc.
SVE	soil vapor extraction
S&W	Shannon & Wilson, Inc.
TCE	trichloroethene
µg/L	microgram per liter
VIP	VIP Cleaners Inc.
VOC	volatile organic compound
Work Plan	*Bentley Mall East Satellite Groundwater Monitoring and Vapor Intrusion Work Plan REV01*
1,2-DCA	1,2-dichloroethane
1,1,1,2-PCA	1,1,1,2-tetrachloroethane

1 INTRODUCTION

This report summarizes our 2022 field efforts associated with the Bentley Mall East Satellite (BMES) building, located at 20 College Road in Fairbanks, Alaska (Figure 1). The BMES building is listed by the Alaska Department of Environmental Conservation (DEC) as an active contaminated site (DEC File Number 102.38.122, Hazard ID 4033) as a result of chlorinated solvent contamination in soil and groundwater at the site. Solvent-contaminated groundwater extends west from the BMES building to the Charles Slater residential subdivision.

Shannon & Wilson prepared this report in compliance with DEC regulations Title 18 Chapter 75 of the Alaska Administrative Code (18 AAC 75) and applicable DEC guidance.

1.1 Project Purpose and Objectives

The project purpose is to monitor groundwater quality within the chlorinated solvent-contaminated groundwater plume originating from the BMES building and to monitor the potential for vapor intrusion at commercial and residential properties within the project area. The project area includes the suspected source area near the BMES building and extends west across College Road and into the Charles Slater residential subdivision. Our objectives for 2022 were to collect groundwater samples from the existing monitoring well network. Vapor intrusion sampling within the project area is planned for Fall 2023.

1.2 Scope of Services

Our scope of services included implementing our DEC-approved December 2021 *Bentley Mall East Satellite Groundwater Monitoring and Vapor Intrusion Work Plan REV01* (Work Plan) and preparing this report.

Our 2022 field and reporting activities included:

- Groundwater sampling from the 13 existing monitoring wells.
- Submitting groundwater samples to SGS North America, Inc. (SGS) for analysis of volatile organic compounds (VOCs).
- Subcontracting a re-survey of monitoring well elevations and locations.
- Calculating groundwater gradient and flow direction.
- Performing analytical data review and validation.
- Providing this summary report

1.3 Site Description

The BMES building is located at 20 College Road in Fairbanks, Alaska, situated on the southeast corner of the Bentley Mall property (PAN 93181, latitude 64.8503 north, longitude 147.7004 west). Tetrachloroethene (PCE) and trichloroethene (TCE) have been detected in groundwater at and downgradient from the BMES property. The DEC considers the source of contamination at this site to be a former dry-cleaning business in the BMES building, although an additional suspected source has been identified. The groundwater contaminant plume extends west of the BMES building into the Charles Slater residential subdivision. The area is served by public water and sewer. Groundwater flow direction is generally to the west.

The site is located on Tanana and Chena River alluvial sand and gravel deposits. Groundwater is present at approximately 12 to 15 feet below ground surface with a westerly flow direction. The closest surface water body, Noyes Slough, is located approximately 900 feet west of the BMES building.

2 PROJECT HISTORY

A detailed project history is included in our April 2021 *Bentley Mall East Satellite 2020 Vapor Intrusion and Groundwater Assessment Report*. An abbreviated project timeline is presented below.

- April 2003 – The BMES site was added to the DEC's Contaminated Sites Database after PCE and TCE were discovered in soil and groundwater samples collected on the Bentley Mall property as part of a Phase II Environmental Site Assessment. The results of subsequent site characterization by Environmental Resource Group (ERG) indicated the historical dry-cleaning operation at the BMES building appeared to be the source of PCE and TCE at the Bentley Mall property, and the wastewater line from the BMES building may have been a preferential pathway for PCE movement in the subsurface.
- April 2005 – PCE and TCE exceeded DEC commercial target levels in indoor air samples collected from the BMES building and Wells Fargo Bank.
- Fall 2005 – Thirteen monitoring wells (MW-1 to MW-13) were installed and sampled. Sample results suggested a PCE and TCE plume extending off-site in a westerly direction.
- September 2006 – Soil vapor extraction (SVE) systems were installed in the BMES and Wells Fargo Bank buildings and remained active for five years. PCE and TCE concentrations in the source area decreased during this time.

- August 2011 – DEC approved ERG's request to shut down the SVE systems. Groundwater PCE and TCE concentrations at the site still exceeded DEC cleanup levels and continued semi-annual groundwater sampling was a condition of the site closure.
- February 2013 – DEC met with ERG to discuss the recent groundwater monitoring results that reported an increase in PCE concentration in MW-1, a monitoring well upgradient of the BMES building. DEC subsequently sent letters to the owners of the adjacent, upgradient property (VIP Cleaners, Inc. [VIP], a dry-cleaner) and Bentley Mall. DEC reopened BMES as a contaminated site and required further evaluation of vapor intrusion risks associated with the groundwater contaminant plume.
- September 2015 – ERG began residential vapor intrusion sampling in the Charles Slater subdivision.
- Winter 2016 – Shannon & Wilson, Inc. (S&W) was retained by The Krausz Companies LLC to continue the monitoring well and vapor intrusion sampling. In addition to collecting residential soil-gas and indoor air samples, Shannon & Wilson collected commercial indoor air samples from several business near the BMES building.
- September 2019 – the concentration of PCE detected at MW-1R increased nearly six times the concentration measured previously. Additionally, this was the first sampling event where 1,1,1,2-tetrachloroethane (1,1,1,2-PCA) had exceeded its cleanup level in any of the monitoring wells. We suggested in our 2019 report that the substantial increase in PCE at MW-1R may be due to PCE migration onto the BMES site from an upgradient source. MW-1R is located along the BMES eastern property line and is hydrologically downgradient from the active VIP business.
- December 2021 – S&W collected sub-slab soil-gas samples from three locations in the Costco Wholesale (Costco) building northwest from the BMES building. This was subsequent to previous soil-gas sampling in Costco in 2018 that detected TCE and PCE in two of the three sub-slab locations. In 2021, PCE was detected in one sample at a concentration less than the DEC target level. DEC requested in May 2022 that Costco be included in future commercial vapor intrusion sampling for the BMES site.

3 CONTAMINANTS OF POTENTIAL CONCERN AND REGULATORY LEVELS

The contaminants of potential concern (COPCs) for groundwater at this site are VOCs, which include chlorinated solvents. The VOC analyte chloroform is not a chlorinated solvent but has been detected in exceedance of the DEC groundwater cleanup level in several monitoring wells at the site. Groundwater samples were analyzed by U.S. Environmental Protection Agency (EPA) Method SW8260D. We compared groundwater analytical data to the DEC regulatory levels in 18 AAC 75.345, Table C. *Groundwater Cleanup Levels*.

Our analytical approach and performance criteria comply with DEC's *Minimum Quality Assurance Requirements for Sample Handling, Reports, and Laboratory Data Technical Memorandum*, dated October 2019.

4 FIELD ACTIVITIES

This section summarizes our field activities performed in August 2022 to implement the Work Plan. Field activities included monitoring well sampling near the Bentley Mall (Figure 1). The data for our groundwater gradient calculation are presented in Table 1 and in Appendix A. Monitoring well water quality parameters are presented in Table 2. Field activity and sample collection logs are included in Appendix B.

4.1 Groundwater Gradient

We used the survey information from August 22, 2022, and our depth-to-groundwater measurements from the monitoring well network as inputs to calculate groundwater gradient using the EPA's *On-line Tools for Site Assessment Calculation* website. The results indicate that groundwater flow direction at the time of sampling was west-southwest with a heading of 256 degrees from north and a gradient of 0.0004 feet per foot (Appendix A).

4.2 Annual Monitoring Well Sampling

We sampled the site's thirteen monitoring wells between August 17 and 19, 2022, following the procedures described in the Work Plan. Prior to sampling at each well location, we measured depth to the water table and total well depth from the top of the well casing. We purged each well using a stainless-steel submersible pump with new, non-reusable sampling tubing. We set the pump within the screened interval of the well and purged using the low-flow method, collecting water quality parameters at least three minutes apart using a YSI Professional-Plus multi-parameter meter until water quality parameters (conductivity, pH, dissolved oxygen, and oxidation/reduction potential) stabilized. We collected groundwater samples into laboratory-provided containers. Copies of our monitoring well sampling logs are included in Appendix B.

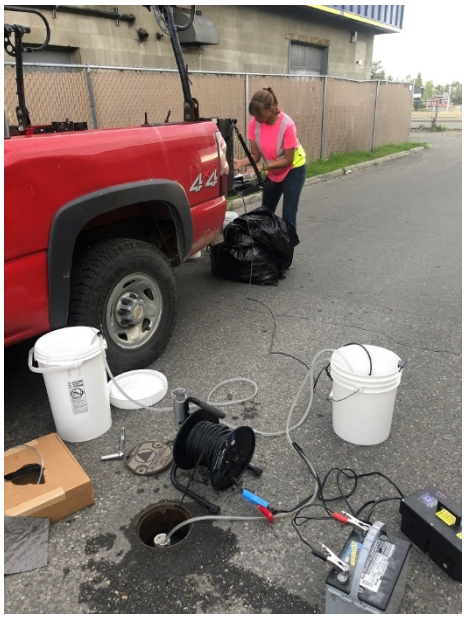

Photo 4-1: Purging monitoring well MW-1R, in the Starbucks drive-through at the Bentley Mall.

4.3 Investigation-Derived Waste

Purge water and decontamination water generated during groundwater sampling activities was collected in one 16-gallon and one 55-gallon drum and temporarily stored on-site. The drums were collected from the BMES site by US Ecology on September 6, 2022. US Ecology transported the drums to their facility in Grand View, Idaho for disposal as F-listed waste (Appendix B). Non-reusable sampling equipment (nitrile gloves, pump-discharge tubing, etc.) was disposed of at the Fairbanks North Star Borough landfill.

4.4 Sample Custody, Storage, and Transport

We collected, handled, and stored samples in a manner consistent with our Work Plan and the DEC January 2022 *Field Sampling Guidance*. Groundwater samples were kept in coolers on artificial ice to maintain a temperature range of 0 to 6 degrees Celsius (°C) and were immediately transferred to a refrigerator upon arrival at S&W's Fairbanks office. A laboratory-provided trip blank and temperature blank accompanied the coolers with water samples throughout the duration of our custody. We completed chain-of-custody (COC) forms to accompany the groundwater samples. S&W maintained custody of the samples until submitting them to the laboratory for analysis.

We hand-delivered water samples to the SGS sample receiving office in Fairbanks on August 22, 2022. SGS received the samples at their analytical laboratory in Anchorage on August 23, 2022, with a requested standard result-turnaround time of two weeks.

4.5 Analytical Laboratory and Methods

The contract laboratory SGS provided the sample containers for VOC analysis. For quality assurance purposes, we collected two field-duplicate sample pairs *(MW-1R* and *MW-101R*; *MW-5* and *MW-105*) and one equipment blank (*EB-1R)* with our groundwater samples.

Groundwater samples were analyzed for VOCs by method 8260D. The SGS laboratory report 1225015 was provided to Shannon & Wilson on September 27, 2022.

4.6 Deviations from the Work Plan

There were no deviations from the Work Plan during our August 2022 field activities.

5 RESULTS

The groundwater laboratory report is provided in Appendix C. The corresponding DEC Laboratory Data-Review Checklist (LDRC) is provided in Appendix D. The groundwater

results are presented in Table 3; Table 4 displays only detected results and DEC cleanup level exceedances.

Eight VOCs were detected in one or more project samples during the August 2022 monitoring well sampling (Table 4) and three VOCs (chloroform, PCE, and TCE) were reported in one or more project sample in exceedance of DEC groundwater cleanup levels (Figure 2).

- PCE exceeded the DEC regulatory level in samples *MW-1R, MW-2R, MW-5, MW-6, MW-10,* and *MW-12*. The greatest PCE concentration measured was 1,150 micrograms per liter (µg/L) at MW-1R, adjacent to the BMES building.
- TCE exceeded the DEC regulatory level in samples *MW-5, MW-6, MW-10,* and *MW-12.* The limit of detection (LOD) for TCE was elevated above the DEC regulatory level in samples *MW-1R* and *MW-101R*, so we cannot be certain if TCE exceeded the DEC regulatory level at this location. The greatest TCE concentration was 8.73 µg/L at MW-10, on the east end of the Charles Slater residential subdivision.
- Chloroform exceeded the DEC regulatory level in samples *MW-1R/MW-101R* and *MW-2R*, at 4.60 J µg/L and 8.93 µg/L, respectively.

The VOC detections and exceedances in the monitoring well network are generally consistent with the historical results.

5.1 Trend Analysis

We performed a Mann-Kendall test for trends in the monitoring wells, where applicable, using ProUCL software version 5.1. The level of significance needed to identify a trend was set at 95%. The data used for the trend test were limited to contaminants of concern detected in the monitoring wells from a minimum of four sample events between 2011 and 2022. We did not include groundwater data prior to 2011, when the SVE system was in operation. ERG collected the groundwater data prior to 2016 and S&W collected the groundwater data after 2016; we have no reason to believe the data are not comparable.

Estimated results less than the laboratory limit of quantitation (LOQ) and not-detected results were excluded from the dataset. For each monitoring well, we did not evaluate a trend for analytes that have not been detected above the LOQ within the past three years. We interpreted the results of the trend analysis using the decision matrix listed below. Trend analysis results are summarized in Table 5.

Exhibit 5-1. Trend Analysis Decision Matrix

Mann-Kendall Statistic (S)	Confidence in Trend	Concentration in Trend
S > 0	> 95 percent	Increasing
	90 – 95 percent	Probably Increasing
	< 90 percent	No Trend
S ≤ 0	<90 percent and COV ≥ 1	No Trend
	<90 percent and COV < 1	Stable
S < 0	90 – 95 percent	Probably Decreasing
	> 95 percent	Decreasing

NOTES:

1 Decision matrix adopted from Airforce Center for Environmental Excellence, February 2007 *Monitoring And Remediation Optimization System Software, Appendix A.2.*

COV = coefficient of variation

Decreasing trends were observed for the following analyte/well pairs:

- PCE in MW4R, MW-5, MW-8, MW-9, MW-11, and MW-12.
- TCE in MW4R, MW5, MW-9, MW-11, and MW-12.
- Chloroform in MW-1R.
- Cis-1,2-dichloroethene (cis-1,2-DCE) in MW-2R, MW-5, MW-6, MW-7, and MW-9.
- Trans-1,2-dichloroethene in MW-4R, MW-8, and MW-11.

Increasing or probably increasing trends were observed for the following analyte/well pairs:

- PCE in MW-6 and MW-13.
- TCE in MW-8.
- Chloroform in MW-2R.

Stable trends were observed for the following analyte/well pairs:

- 1,1,1,2-TCA in MW-1R.
- PCE in MW-2R, MW-7, and MW-10.
- TCE in MW-1R, MW-2R, MW-7, and MW-10.
- 1,2-dichloroethane (DCA) in MW-3R, and MW-5.
- Cis-1,2-DCE in MW-8 and MW-11.

No trend was identified for the remaining monitoring well and analyte combinations tested.

6 QUALITY ASSURANCE / QUALITY CONTROL

S&W staff performed a quality assurance/quality control (QA/QC) assessment for the laboratory reports provided by SGS, summarized in Appendix E. S&W personnel conducted field activities in accordance with our standard QA/QC procedures and we consider the samples we collected to be representative of the site conditions at the locations and times they were obtained. Our QA assessment, summarized in the LDRC in Appendix D, identified analytical results that were qualified due to QC failures reported by the laboratory. Based on our QA review, no data was rejected as unusable due to QC failures, and the completeness goal of obtaining 85-percent useable data was met.

The SGS laboratory reporting LODs met the groundwater cleanup level for all requested analytes except for 1,2,3-trichloropropane in most project samples; however, the LODs for several additional analytes were elevated above DEC cleanup levels in samples *MW-1R* and *MW-101R* due to a high concentration of target analytes, which required the samples to be diluted by a factor of ten. We cannot assess whether 1,2,3-trichloropropane or other analytes that exceed the LOD in the groundwater samples are present at a concentration less than the LOD but greater than the DEC regulatory level. Not-detected results where LODs exceed their respective regulatory limits are displayed in Table 3 and Table 4 as "<Bold".

Groundwater quality parameters did not stabilize, and we did not purge three well volumes, before collecting the sample *MW-9.* The data are considered estimated because they may not represent groundwater conditions at this location, and the data are qualified with a “J” flag in the analytical tables.

7 CONCEPTUAL SITE MODEL

A conceptual site model (CSM) describes potential pathways between a contaminant source and possible receptors (i.e., people, animals, and plants) and is used to determine who may be at risk of exposure to those contaminants. We summarize the suspected contaminant sources, migration and exposure pathways, and potential receptors on the DEC *Human Health Conceptual Site Model Scoping and Graphic Forms* included in Appendix F. We previously completed an updated CSM in our December 2021 Work Plan. Based on our 2022 groundwater sample results, we do not propose any changes to the CSM at this time.

7.1 Description of Potential Receptors

We consider commercial/industrial workers, site visitors, construction workers, and residents in the project area to be current and future potential receptors for one or more exposure pathways. The contaminants of potential concern at this site are 1,2-DCA, PCE and

PCE-degradation products, 1,1,1,2-PCA, and chloroform. Chloroform was added as a contaminant of potential concern at the request of DEC in 2017. We note that 1,1,1,2-PCA exceeded the groundwater cleanup level in MW-1R between 2019 and 2021. Because this analyte was not detected in MW-1R up until 2018, we do not believe this release is attributable to the BMES site. However, 1,1,1,2-PCA must be considered a contaminant of potential concern because it has exceeded the DEC groundwater cleanup level at the site.

7.2 Potential Exposure Pathways

Potential human exposure pathways include incidental soil and groundwater ingestion, dermal exposure to contaminants in groundwater, inhalation of volatile compounds in tap water, and inhalation of outdoor and indoor air.

7.2.1 Direct Contact with Soil

Contact with the contaminated subsurface soil at the site is unlikely at present, considering the site near the BMES building is covered in pavement. However, future excavation near the BMES building may result in incidental dermal contact or ingestion of soil by commercial workers, site visitors, trespassers, or construction workers. We do not know if soil contamination exists in the Charles Slater subdivision.

7.2.2 Direct Contact with Groundwater

Commercial businesses and residents in the Charles Slater subdivision are connected to the municipal water supply; therefore, contact with groundwater below the site is unlikely at present. However, we did observe a private well pump in the basement of one of the residences (we were unable to get a response from this resident as to whether there is a functioning well at the property). It is possible there are water wells remaining on properties that were used before the municipal water utility existed. As a result, we chose to include dermal absorption of contaminants in groundwater and inhalation of tap water as potential current and future exposure routes for residents.

Because depth to groundwater is shallow, industrial workers, site visitors, or construction workers could be exposed to contaminated groundwater through dermal absorption during future excavation and construction projects. The groundwater below the area cannot be ruled out as a potential future drinking water source, so ingestion of groundwater must be considered a future exposure pathway.

7.2.3 Inhalation

Inhalation of indoor air is a potential future exposure pathway for residents in the Charles Slater subdivision. PCE has been detected at concentrations less than DEC target levels in

the four residences where we have collected indoor air samples, and PCE and TCE have exceeded the soil-gas target level in near-slab and sub-slab samples at two residential locations. While the current vapor intrusion threat appears to be insignificant in the residences where we have collected indoor air samples, because PCE and TCE were less than DEC target levels, that could change in the future if the concentration of PCE in groundwater below the project area increases. The PCE concentration in the monitoring well MW-1R has increased significantly since 2018. Until a stable or decreasing contaminant trend is identified for the monitoring well network, we cannot be certain about the future vapor intrusion risk to residents within the solvent-contaminated groundwater plume.

Outdoor air is a potential future pathway if contaminated soil is exposed during excavation activities.

8 DISCUSSION

PCE contamination remains elevated well above the DEC groundwater cleanup level in MW-1R, consistent with historic results since the sudden increase in PCE was first detected in 2018. The high concentration of PCE in MW-1R does not yet appear to have led to increases in chlorinated solvent concentrations throughout the monitoring well network, as the PCE and TCE trends for most wells are stable or decreasing. Consistent with our findings from 2021, there was an increasing PCE concentration trend for MW-13 and MW-6 which may be attributable to the high PCE concentrations in MW-1R moving downgradient.

An increasing trend for TCE was identified in MW-8, at the downgradient edge of the plume. The TCE concentration in MW-8 is less than the DEC groundwater cleanup level but if the increasing trend continues it is possible that TCE could exceed the groundwater cleanup level in the future. The increasing TCE in this well could be the result of PCE degrading into the daughter product TCE. More monitoring will be needed to identify contaminant trends near the source and at the edge of the plume.

9 RECOMMENDATIONS

Based on our overall project understanding, the 2022 analytical results, and recommendations from our previous reports, we recommend the following:

- Continued annual groundwater monitoring from the existing monitoring well network.
- Perform an annual contaminant trend analysis for the monitoring well network to evaluate whether contaminants in the groundwater are increasing, decreasing, or stable.

- Per DEC's previous request, we recommend including sampling sub-slab soil-gas at Costco in the vapor intrusion sampling scheduled for Fall 2023.
- Per DEC's previous request, we recommend providing DEC with an updated groundwater plume boundary map for display on their contaminated sites program web map viewer application. This would include data collected by S&W and others for the BMES site.
- Site characterization efforts should be performed by VIP at the VIP property as recommended in previous reports.

10 CLOSURE

This report was prepared for the exclusive use of The Krausz Companies LLC and their representatives for evaluating remaining chlorinated-solvent contamination near the BMES building in Fairbanks, Alaska. Our conclusions and recommendations are based on:

- The limitations of our approved scope, schedule, and budget described in our proposal dated August 2, 2022, and our DEC-approved Work Plan dated December 2021.
- Our understanding of the project based on information provided by DEC and the Owner.
- Site conditions we observed during our visits in August 2022.
- The results of the analytical testing performed on groundwater samples we collected.
- The regulations in Alaska's 18 AAC 75.345 Table C. *Groundwater Cleanup Levels* (November 2021).

Our observations are specific to the locations, depths, and times noted on the field logs (Appendix B) and may not be applicable to all areas of the site. No amount of sampling can precisely predict the characteristics, quality, or distribution of subsurface and site conditions. Potential sources of variation include, but are not limited to:

- The passage of time or intervening causes (natural and manmade) may result in changes to site and subsurface conditions.
- The different conditions between sampling locations.
- Variations in the presence, distribution, and concentration of contaminants at our sampling locations; our tests may not represent the highest contaminant concentrations at the site.
- Contaminant concentrations may change in response to natural conditions, chemical reactions, and/or other events.

If substantial time has elapsed between submission of this report and the start of activities or action based upon it, we should retain to review the applicability of the conclusions and recommendations, considering the lapsed time or changed conditions.

This report should not be used for other purposes without our review, and it should not be used without our approval if any of the following occurs:

- Conditions change due to natural forces or human activity under, at, or adjacent to the site.
- Assumptions stated in this report have changed.
- Project details change, or new information becomes available such that our conclusions may be affected.
- The site ownership or land use has changed.
- Regulations, laws, or cleanup levels change.
- The site's regulatory status has changed.

If any of these occurs, we should be retained to review the applicability of our recommendations.

State and/or federal agencies may require reporting of the information included in this report. Shannon & Wilson does not assume the responsibility for reporting these findings and therefore has not, and will not, disclose the results of this study unless specifically requested and authorized by KE Bentley One, LLC and KGC Bentley Two, LLC., or as required by law. Regulatory agencies may reach different conclusions than Shannon & Wilson. We have prepared the attachment, *Important Information about Your Environmental Report*, to assist you and others in understanding the uses and limitations of our reports.

11 REFERENCES

Air Force Center for Environmental Excellence, February 2007, *Monitoring And Remediation Optimization System Software, Appendix A.2*

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Table 1 - August 2022 Groundwater Elevation Summary

Monitoring Well	Date Measured	Total Well Depth (feet below TOC)	Depth-to-Water (feet below TOC)	TOC Elevation (feet above MSL)	Groundwater Elevation (feet above MSL)	Northing	Easting
MW-1R	8/18/2022	21.23	15.4	446.29	446.6	3968800.00	1375862.06
MW-2R	8/18/2022	21.92	15.16	445.99	446.4	3968848.89	1375709.75
MW-3R	8/18/2022	45.87	15.19	446.01	446.4	3968850.74	1375708.13
MW-4R	8/18/2022	20.17	13.96	444.81	445.1	3968943.56	1375723.21
MW-5	8/19/2022	29.34	17.29	447.59	446.3	3969118.40	1374819.90
MW-6	8/19/2022	20.66	17.13	447.76	446.3	3969124.45	1374818.59
MW-7	8/18/2022	23.64	19.42	449.71	447.3	3969410.57	1374417.21
MW-8	8/17/2022	20.12	11.73	441.70	442.1	3969218.39	1373663.25
MW-9	8/17/2022	20.46	11.29	441.47	442.3	3969203.76	1374201.91
MW-10	8/17/2022	19.89	12.73	443.09	443.7	3968967.07	1374612.88
MW-11	8/17/2022	20.04	11.77	441.85	442.6	3968941.18	1374060.37
MW-12	8/18/2022	20.16	14.82	445.49	446.1	3968917.64	1375316.66
MW-13	8/18/2022	20.67	15.14	445.89	446.5	3968766.05	1375576.75

NOTES:
Monitoring well survey completed by Design Alaska, Inc. on August 22, 2022.
MSL = mean sea level; TOC = top of casing

Table 2 - August 2022 Field Parameters

Sample Date	Monitoring Well	TWD (feet)	DTW (feet)	Groundwater-Quality Parameters						
				Temperature (°C)	Conductivity (µS/cm)	DO (mg/L)	pH (s.u.)	ORP (mV)	Turbidity (visual)	Stabilization Criteria*
8/18/2022	MW-1R	21.23	15.40	6.2	544.0	8.43	6.88	175.9	Clear	Parameters Stabilized
8/18/2022	MW-2R	21.92	15.16	4.5	603.0	0.50	6.99	120.6	Clear	Parameters Stabilized
8/18/2022	MW-3R	45.87	15.19	3.7	433.4	0.41	6.81	127.7	Clear	Parameters Stabilized
8/18/2022	MW-4R	20.17	13.96	3.8	627.0	1.27	6.90	168.2	Clear	Parameters Stabilized
8/19/2022	MW-5	29.34	17.29	3.8	525.0	0.36	6.80	180.2	Clear	Parameters Stabilized
8/19/2022	MW-6	20.66	17.13	3.5	578.0	1.91	6.69	209.1	Clear	Three Well Volumes Purged
8/18/2022	MW-7	23.64	19.42	3.4	538.0	1.02	6.89	157.3	Clear	Parameters Stabilized
8/17/2022	MW-8	20.12	11.73	5.1	638.0	3.63	6.98	118.9	Clear	Parameters Stabilized
8/17/2022	MW-9	20.46	11.29	4.0	576.0	8.93	6.92	162.4	Clear	N/A
8/17/2022	MW-10	19.89	12.73	5.1	530.0	0.43	6.85	110.2	Clear	Parameters Stabilized
8/17/2022	MW-11	20.04	11.77	8.0	659.0	4.38	6.92	135.4	Clear	Three Well Volumes Purged
8/18/2022	MW-12	20.16	14.82	3.7	830.0	3.14	6.75	141.6	Clear	Three Well Volumes Purged
8/18/2022	MW-13	20.67	15.14	3.5	814.0	1.70	6.66	171.8	Clear	Parameters Stabilized

NOTES:

* Three consecutive readings for conductivity, DO, pH, and ORP were within stabilization criteria prior to sample collection.

°C = degrees Celsius; DO = dissolved oxygen; DTW = depth to water from top of casing; µS/cm = microSiemens per centimeter; mg/L = milligrams per liter; mV = millivolts; N/A = not applicable; well stabilization or three well volumes not met; ORP = oxidation-reduction potential; s.u. = standard units; TWD = total well depth

Table 3 - August 2022 Groundwater Results

Analytical Method	Analyte	Cleanup Level	Units	MW-1R		MW-2R	MW-3R	MW-4R	MW-5		MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13
				Primary	Duplicate				Primary	Duplicate								
8260D (VOC)	1,1,1,2-Tetrachloroethane	5.7	µg/L	<2.50	<2.50	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250 J*	<0.250	<0.250	<0.250	<0.250
	1,1,1-Trichloroethane	8,000	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	1,1,2,2-Tetrachloroethane	0.76	µg/L	**<2.50**	**<2.50**	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250 J*	<0.250	<0.250	<0.250	<0.250
	1,1,2-Trichloroethane	0.41	µg/L	**<2.00**	**<2.00**	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200 J*	<0.200	<0.200	<0.200	<0.200
	1,1-Dichloroethane	28	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	1,1-Dichloroethene	280	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	1,1-Dichloropropene	NA	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	1,2,3-Trichlorobenzene	7	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	1,2,3-Trichloropropane	0.0075	µg/L	**<5.00**	**<5.00**	**<0.500**	**<0.500**	**<0.500**	**<0.500**	**<0.500**	**<0.500**	**<0.500**	**<0.500**	**<0.500 J***	**<0.500**	**<0.500**	**<0.500**	**<0.500**
	1,2,4-Trichlorobenzene	4	µg/L	**<5.00**	**<5.00**	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	1,2,4-Trimethylbenzene	56	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	1,2-Dibromo-3-chloropropane	NA	µg/L	<50.0	<50.0	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00 J*	<5.00	<5.00	<5.00	<5.00
	1,2-Dibromoethane	0.075	µg/L	**<0.375**	**<0.375**	<0.0375	<0.0375	<0.0375	<0.0375	<0.0375	<0.0375	<0.0375	<0.0375	<0.0375 J*	<0.0375	<0.0375	<0.0375	<0.0375
	1,2-Dichlorobenzene	300	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	1,2-Dichloroethane	1.7	µg/L	**<2.50**	**<2.50**	<0.250	0.530	0.410 J	<0.250	0.420 J	0.360 J	<0.250	<0.250	<0.250 J*	0.500	<0.250	<0.250	<0.250
	1,2-Dichloropropane	8.2	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	1,3,5-Trimethylbenzene	60	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	1,3-Dichlorobenzene	300	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	1,3-Dichloropropane	NA	µg/L	<2.50	<2.50	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250 J*	<0.250	<0.250	<0.250	<0.250
	1,4-Dichlorobenzene	4.8	µg/L	<2.50	<2.50	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250 J*	<0.250	<0.250	<0.250	<0.250
	2,2-Dichloropropane	NA	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	2-Butanone (MEK)	5,600	µg/L	<50.0	<50.0	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00 J*	<5.00	<5.00	<5.00	<5.00
	2-Chlorotoluene	NA	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	2-Hexanone	38	µg/L	**<50.0**	**<50.0**	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00 J*	<5.00	<5.00	<5.00	<5.00
	4-Chlorotoluene	NA	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	Benzene	4.6	µg/L	<2.00	<2.00	0.350 J	0.830	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200 J*	0.170 J	<0.200	<0.200	<0.200
	Bromobenzene	62	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	Bromochloromethane	NA	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	Bromodichloromethane	1.3	µg/L	**<2.50**	**<2.50**	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250 J*	<0.250	<0.250	<0.250	<0.250
	Bromoform	33	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	Bromomethane	7.5	µg/L	**<30.0 J***	**<30.0 J***	<3.00 J*	<3.00 J*	<3.00 J*	<3.00 J*	<3.00 J*	<3.00 J*	<3.00 J*	<3.00 J*	<3.00 J*	<3.00 J*	<3.00 J*	<3.00 J*	<3.00 J*
	Carbon disulfide	810	µg/L	<50.0	<50.0	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00 J*	<5.00	<5.00	<5.00	<5.00
	Carbon tetrachloride	4.6	µg/L	**<5.00**	**<5.00**	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	Chlorobenzene	78	µg/L	<2.50	<2.50	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250 J*	<0.250	<0.250	<0.250	<0.250
	Chloroethane	21,000	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	Chloroform	2.2	µg/L	**4.60 J**	**4.50 J**	**8.93**	<0.500	<0.500	<0.500	<0.500	0.350 J	<0.500	0.400 J	<0.500 J*	<0.500	<0.500	<0.500	2.00
	Chloromethane	190	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	cis-1,2-Dichloroethene	36	µg/L	<5.00	<5.00	1.46	0.610 J	0.530 J	1.08	1.09	1.54	2.36	1.00	1.07 J*	3.07	1.51	1.50	<0.500
	cis-1,3-Dichloropropene	4.7	µg/L	<2.50	<2.50	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250 J*	<0.250	<0.250	<0.250	<0.250
	Dibromochloromethane	8.7	µg/L	<2.50	<2.50	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250 J*	<0.250	<0.250	<0.250	<0.250
	Dibromomethane	8.3	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	Dichlorodifluoromethane	200	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	Ethylbenzene	15	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	Hexachlorobutadiene	1.4	µg/L	**<5.00**	**<5.00**	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	Isopropylbenzene	450	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	m,p-xylenes	190	µg/L	<10.0	<10.0	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00 J*	<1.00	<1.00	<1.00	<1.00

Table 3 - August 2022 Groundwater Results

Analytical Method	Analyte	Cleanup Level	Units	MW-1R Primary	MW-1R Duplicate	MW-2R	MW-3R	MW-4R	MW-5 Primary	MW-5 Duplicate	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13
8260D (VOC)	Methyl isobutyl ketone	6,300	µg/L	<50.0	<50.0	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00 J*	<5.00	<5.00	<5.00	<5.00
	Methylene chloride	110	µg/L	<50.0	<50.0	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00 J*	<5.00	<5.00	<5.00	<5.00
	Methyl-t-butyl ether (MTBE)	140	µg/L	<50.0	<50.0	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00 J*	<5.00	<5.00	<5.00	<5.00
	Naphthalene	1.7	µg/L	**<5.00**	**<5.00**	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	n-Butylbenzene	1,000	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	n-Propylbenzene	660	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	o-Xylene	190	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	p-Isopropyltoluene	NA	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	sec-Butylbenzene	2,000	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	Styrene	1,200	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	tert-Butylbenzene	690	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	Tetrachloroethene	41	µg/L	**1,150**	**1,130**	**150**	<0.500	34.0	**56.4**	**59.9**	**84.4**	4.75	2.81	8.21 J*	**48.6**	4.46	**129**	36.5
	Toluene	1,100	µg/L	<5.00	<5.00	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	Total Xylenes	190	µg/L	<15.0	<15.0	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50	<1.50 J*	<1.50	<1.50	<1.50	<1.50
	trans-1,2-Dichloroethene	360	µg/L	<5.00	<5.00	<0.500	<0.500	1.17	<0.500	<0.500	<0.500	<0.500	2.65	3.69 J*	<0.500	5.44	<0.500	<0.500
	trans-1,3-Dichloropropene	4.7	µg/L	**<5.00**	**<5.00**	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500 J*	<0.500	<0.500	<0.500	<0.500
	Trichloroethene	2.8	µg/L	**<5.00**	**<5.00**	1.26	<0.500	1.22	**6.07**	**6.42**	**7.91**	2.37	1.57	1.87 J*	**8.73**	1.98	**4.49**	<0.500
	Trichlorofluoromethane	5,200	µg/L	31.5	29.3	12.9	1.78	3.46	4.92	4.98	3.34	<0.500	<0.500	<0.500 J*	<0.500	3.21	1.78	2.84
	Trichlorotrifluoroethane	10,000	µg/L	<50.0	<50.0	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00 J*	<5.00	<5.00	<5.00	<5.00
	Vinyl acetate	410	µg/L	<50.0	<50.0	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00 J*	<5.00	<5.00	<5.00	<5.00
	Vinyl chloride	0.19	µg/L	**<0.750**	**<0.750**	<0.0750	<0.0750	<0.0750	<0.0750	<0.0750	<0.0750	<0.0750	<0.0750	<0.0750 J*	<0.0750	<0.0750	<0.0750	<0.0750

NOTES:
DEC Cleanup Levels obtained from 18 AAC 75.345 Table C. *Groundwater Cleanup Levels.*
Field duplicate sample pairs *MW-1R/MW-101R* and *MW-5/MW-105* submitted with this work order.

J — Estimated concentration, detected greater than the limit of detection (LOD) and less than the limit of quantitation (LOQ). Flag applied by the laboratory.
J* — Estimated concentration due to quality control failures. Flag applied by Shannon & Wilson, Inc.
< — Analyte not detected; listed as less than the limit of detection (LOD) unless otherwise flagged due to quality control failures.
<Bold — LOD exceeds DEC Cleanup Level
Bold — Detected concentration exceeds DEC Cleanup Level

DEC = Alaska Department of Environmental Conservation; LOD = limit of detection; LOQ = limit of quantitation; NA = not applicable; DEC Cleanup Level not yet established; VOC = volatile organic compound; µg/L = microgram per liter

Table 4 - August 2022 Groundwater Detected Results and Exceedances

Analytical Method	Analyte	Cleanup Level	Units	MW-1R		MW-2R	MW-3R	MW-4R	MW-5		MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13
				Primary	Duplicate				Primary	Duplicate								
8260D (VOC)	1,2-Dichloroethane	1.7	µg/L	**<2.50**	**<2.50**	<0.250	0.530	0.410 J	<0.250	0.420 J	0.360 J	<0.250	<0.250	<0.250 J*	0.500	<0.250	<0.250	<0.250
	Benzene	4.6	µg/L	<2.00	<2.00	0.350 J	0.830	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200 J*	0.170 J	<0.200	<0.200	<0.200
	Chloroform	2.2	µg/L	**4.60 J**	**4.50 J**	**8.93**	<0.500	<0.500	<0.500	<0.500	0.350 J	<0.500	0.400 J	<0.500 J*	<0.500	<0.500	<0.500	2.00
	cis-1,2-Dichloroethene	36	µg/L	<5.00	<5.00	1.46	0.610 J	0.530 J	1.08	1.09	1.54	2.36	1.00	1.07 J*	3.07	1.51	1.50	<0.500
	Tetrachloroethene	41	µg/L	**1,150**	**1,130**	**150**	<0.500	34.0	**56.4**	**59.9**	**84.4**	4.75	2.81	8.21 J*	**48.6**	4.46	**129**	36.5
	trans-1,2-Dichloroethene	360	µg/L	<5.00	<5.00	<0.500	<0.500	1.17	<0.500	<0.500	<0.500	<0.500	2.65	3.69 J*	<0.500	5.44	<0.500	<0.500
	Trichloroethene	2.8	µg/L	**<5.00**	**<5.00**	1.26	<0.500	1.22	**6.07**	**6.42**	**7.91**	2.37	1.57	1.87 J*	**8.73**	1.98	**4.49**	<0.500
	Trichlorofluoromethane	5,200	µg/L	31.5	29.3	12.9	1.78	3.46	4.92	4.98	3.34	<0.500	<0.500	<0.500 J*	<0.500	3.21	1.78	2.84

NOTES:
DEC Cleanup Levels obtained from 18 AAC 75.345 Table C. *Groundwater Cleanup Levels.*
Field duplicate sample pairs *MW-1R/MW-101R* and *MW-5/MW-105* submitted with this work order.

J — Estimated concentration, detected greater than the limit of detection (LOD) and less than the limit of quantitation (LOQ). Flag applied by the laboratory.

< — Analyte not detected; listed as less than the limit of detection (LOD) unless otherwise flagged due to quality control failures.

<Bold — LOD exceeds DEC Cleanup Level

Bold — Detected concentration exceeds DEC Cleanup Level

DEC = Alaska Department of Environmental Conservation; LOD = limit of detection; LOQ = limit of quantitation; NA = not applicable; DEC Cleanup Level not yet established; VOC = volatile organic compound; µg/L = microgram per liter

Path: P:\GIS\FBX\107000s\107889 BMES 2021\Figure 1 Vicinity Map October 2022.mxd Author: User: DHF Date: 10/27/2022

Map adapted from aerial imagery provided by Pictometry International Corporation, 2020.

Notes:

1. MW-1, MW-2, MW-3, MW-4, and MW-14 have been decommissioned.
2. MW-1R, MW-2R, MW-3R, and MW-4R were reinstalled following completion of the Starbucks construction project in 2018.

October 2022

SITE LOCATION

Figure 1

Map adapted from aerial imagery provided by Pictometry International Corporation, 2020.

0 500 Feet

Notes:
1. Only results exceeding regulatory limits are displayed. See report tables for further information.
2. The highest result of a field duplicate sample pair is reported.
3. DEC = Alaska Department of Environmental Conservation; µg/L = micrograms per liter

N

October 2022

2022 GROUNDWATER RESULTS EXCEEDING REGULATORY LIMITS

Figure 2

Path: P:\GIS\FBX\107000s\107889 BMES 2021\Figure 3 2022 PCE Trend Results.mxd Author: User: DHF Date: 10/26/2022

Imagery citation

Map adapted from aerial imagery provided by Pictometry International Corporation, 2020.

Notes:

1. MW-3R had insufficient data to analyze a trend for PCE.

0 500 Feet

N

October 2022

MANN-KENDALL TREND ANALYSIS RESULTS FOR PCE

Figure 3

Map adapted from aerial imagery provided by Pictometry International Corporation, 2020.

Notes:

1. MW-3R and MW-13 had insufficient data to analyze a trend for PCE.

0 500 Feet

N

October 2022

MANN-KENDALL TREND ANALYSIS RESULTS FOR TCE

Figure 4

APPENDIX A: GROUNDWATER GRADIENT CALCULATION

Appendix A

Groundwater Gradient Calculation

EPA On-line Tools for Site Assessment Calculation

Hydraulic Gradient -- Magnitude and Direction

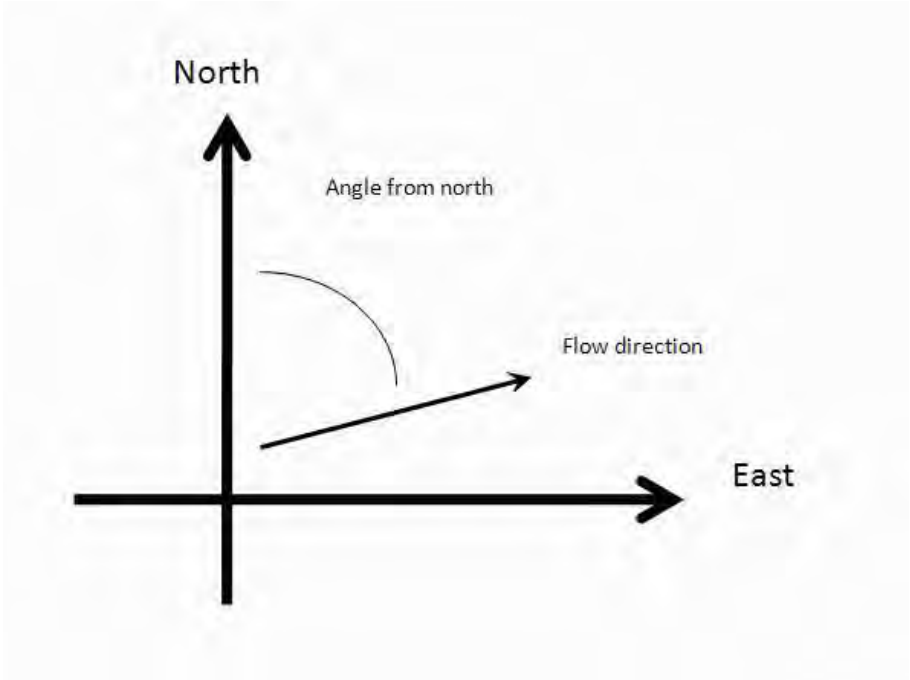
Gradient Calculation from fitting a plane to as many as thirty points

$a x_1 + b y_1 + c = h_1$
$a x_2 + b y_2 + c = h_2$
$a x_3 + b y_3 + c = h_3$
. . .
$a x_{30} + b y_{30} + c = h_{30}$

where (x_i, y_i) are the coordinates of the well and
h_i is the head

i = 1,2,3, ... , 30
The coefficients a, b, and c are calculated by a least-squares fitting of the the data to a plane

The gradient is calculated from the square root of $(a^2 + b^2)$ and the angle from the arctangent of a/b or b/a depending on the quadrant



Inputs

Example Data Set 1 | Example Data Set 2 | Calculate | Clear
Save Data | Recall Data | Go Back

Site Name
Date | Current Date
Calculation basis: Head
Coordinates: ft

I.D.	x-coordinate	y-coordinate	head ft
1) MW-1R	1375862.0557	3968800.00	430.89
2) MW-2R	1375709.75	3968848.89	430.83
3) MW-3R	1375708.13	3968850.74	430.82
4) MW-4R	1375723.21	3968943.56	430.85
5) MW-6	1374818.59	3969124.45	430.63
6) MW-7	1374417.21	3969410.57	430.29
7) MW-8	1373663.25	3969218.39	429.97
8) MW-9	1374201.91	3969203.76	430.18
9) MW-10	1374612.88	3968967.07	430.36
10) MW-11	1374060.37	3968941.18	430.08
11) MW-12	1375316.66	3968917.64	430.67
12) MW-13	1375576.75	3968766.05	430.75
13) MW-5	1374819.90	3969118.40	430.30
14)			
15)			
16)			

17)				
18)				
19)				
20)				
21)				
22)				
23)				
24)				
25)				
26)				
27)				
28)				
29)				
30)				

Results

Number of Points Used in Calculation	13
Max. Difference Between Head Values	0.2804
Gradient Magnitude (i)	0.0004611
Flow direction as degrees from North (positive y axis)	256.5
Coefficient of Determination (R^2)	0.955

WCMS

Last updated on 8/31/2021

APPENDIX B: FIELD FORMS

Appendix B

Field Forms

CONTENTS

FIELD ACTIVITIES DAILY LOG

Date 8/17/22
Sheet 1 of 3
Project No. 107889

Project Name: BMGS Annual Groundwater Monitoring
Field activity subject: monitoring well Sampling
Description of daily activities and events:

800 DHF and KND leave S&W office. Head to SGS to get sample kit & Arctic fire and safety to get drum for purgewater.
850 Arrive at MW-8 but well is blocked by construction fence. DHF call site supervisor Chris and leave a message requesting access. Head to MW-9 to purge and sample while we wait for MW-8 access.
900 Arrive at MW-9
1045 Arrive at MW-10.
1140 Return to S&W office for lunch
1400 Depart S&W for MW-8
1420 Arrive at MW-8
1530 Arrive at MW-11
1630 Drop off IDW near dumpsters & transformer at Starbucks.
1650 DHF show KND the other monitoring well locations.
1710 Return to S&W office and ~~~~ put samples in fridge

Visitors on site: —

Changes from plans/specifications and other special orders and important decisions: —

Weather conditions: Sunny 60's

Important telephone calls: —

Personnel on site: Dana Fiore

Signature: Dana Fiore Date: 8/17/22

FIELD ACTIVITIES DAILY LOG

Date 8/18/22
Sheet 2 of 3
Project No. 107889

Project Name: BMES Annual Groundwater Monitoring
Field activity subject: monitoring well sampling
Description of daily activities and events: 0830 - Calibrate YSi
0900 - Depart S&W for east Fbx to pick up purge barrel
0915 - Arrive at purge barrel location
0925 - Arrive at MW-3R & MW-2R
1220 - Arrive at MW-12
1400 - Arrive at MW-13
1540 - Depart MW-13 for Home Depot
1630 - Arrive at MW-4R
1810 - Arrive at MW-7
2000 - Start MW-1R after Starbucks Drive-Thru closes (w/RLW)
fill hole w/asphalt from decommissioned well
2200 - Return to S&W

Visitors on site: —

Changes from plans/specifications and other special orders and important decisions:
—

Weather conditions: Sunny w/ rain sprinkles

Important telephone calls: —

Personnel on site: Kailyn Davis
Signature: Kailyn Davis Date: 8/18/22

FIELD ACTIVITIES DAILY LOG

Date 8/19/22
Sheet 3 of 3
Project No. 107889

Project Name: BMES Annual Groundwater Monitoring
Field activity subject: monitoring well sampling
Description of daily activities and events:

0915 Arrive S&W office, unload truck from previous night, break to attend enviro mtg
1045 pack for field, calibrate YSI
1115 leave S&W
1130 Arrive @ MS-5 & MS-6
1420 drop off hazmat buckets behind Starbucks
1450 Return to S&W. unpack & finalize field sheets

Visitors on site: —

Changes from plans/specifications and other special orders and important decisions:
—

Weather conditions: partly sunny, 60s

Important telephone calls: —

Personnel on site: Kailyn Davis
Signature: Kailyn Davis Date: 8/19/22

MONITORING WELL SAMPLING LOG

Owner/Client: The Krausz Companies
Location: Starbucks Drive-Thru
Sampling Personnel: KND / RLW
Weather Conditions: Cloudy Air Temp. (°F): 60s

Project No.: 107889-001
Date: 8/18/22
Well: MW-1R
Time started: 2000
Time completed: 2145

Sample No.: MW-1R Time: 2110
Duplicate: MW-101R Time: 2100
Equipment Blank: EB-1R Time: 2125

Pump: Submersible
Purging Method: (portable) / dedicated pump
Pumping Start: 2033
Purge Rate (gal./min.): 0.1
Pumping End: 2106

Diameter and Type of Casing: 2"
Approximate Total Depth of Well Below MP (ft.): 21.31
Measured Total Depth of Well Below MP (ft.): 20.32+0.91 = 21.23
Depth to Water Below MP (ft.): 15.40
Depth to Ice (if frozen) Below MP (ft.): —
Feet of Water in Well: 5.83
Gallons per foot: 0.17
Gallons in Well: 0.99 x3 = 2.97
Purge Water Volume (gal.): ~3 gal
Purge Water Disposal: 55-gal drum

Pump Set Depth Below MP (ft.): 20
KuriTec Tubing (ft.): 28
TruPoly Tubing (ft.): —

Monument Condition: good
Casing Condition: good

Wiring Condition (dedicated pumps): N/A

Measuring Point (MP): Top of Casing (TOC)
Monument type: Stickup / (Flushmount)
Measurement method: Rod & level / (Tape measure)

Top-of-casing to monument (ft.): 0.21
Monument to ground surface (ft.): —

Datalogger type: n/a
Datalogger serial #: n/a
Measured cable length (ft.): n/a

- ☐ Lock present and operational N/A
- ☐ Well name legible on outside of well
- ☐ Evidence of frost-jacking

Notes

WELL CASING VOLUMES

Diameter of Well [ID-inches]	CMT	1¼	(2)	3	4	6	8
Gallons per lineal foot	0.000253	0.08	0.17	0.38	0.66	1.5	2.6

DHE

MONITORING WELL SAMPLING LOG

Field Parameter Instrument YSI-C Circle one: *Parameters stabilized* or *>3 well volumes purged*

Sample Observations

Notes

FIELD PARAMETERS [stabilization criteria]

Time	Temp. (°C)	Dissolved Oxygen (mg/L) [±0.1]	Conductivity (µS/cm) [± 3%]	pH [± 0.1]	ORP (mV) [± 10 mV]	Water Clarity (visual)
2033	5.9	9.22	576	7.13	173.2	cloudy
2036	6.1	9.29	575	6.96	173.5	clear
2039	6.1	9.42	573	6.91	173.9	clear
2042	6.1	9.32	569	6.89	174.0	clear
2045	6.1	9.21	566	6.89	174.1	clear
2048	6.1	9.12	562	6.89	174.3	clear
2051	6.1	9.04	557	6.89	174.5	clear
2054	6.2	8.64	554	6.88	174.7	clear
2057	6.2	8.69	551	6.88	175.0	clear
2100	6.1	8.45	546	6.88	175.3	clear
2103	6.2	8.49	546	6.88	175.6	clear
2106	6.2	8.43	544	6.88	175.9	clear
2110	sampled					

33 min

Laboratory SGS

	Analysis	Sample Containers	Preservatives	Dup
☐	VOC	9 x 40mL	HCl	☒ + EB
☐				☐
☐				☐
☐				☐
☐				☐
☐				☐

Well No. MW-1R

DHF

MONITORING WELL SAMPLING LOG

Owner/Client: The Krausz Companies
Location: Starbucks parking lot
Sampling Personnel: KND
Weather Conditions: Sunny Air Temp. (°F): 60s

Project No.: 107889-001
Date: 8/18/22
Well: MW-2R
Time started: 1115
Time completed: 1210

Sample No.: MW-2R Time: 1145
Duplicate: — Time: —
Equipment Blank: — Time: —

Pump: submersible
Purging Method: portable / dedicated pump
Pumping Start: 1131
Purge Rate (gal./min.): 0.1
Pumping End: 1143

Pump Set Depth Below MP (ft.): 20
KuriTec Tubing (ft.): 25
TruPoly Tubing (ft.): —

Diameter and Type of Casing: 2"
Approximate Total Depth of Well Below MP (ft.): 21.95
Measured Total Depth of Well Below MP (ft.): 21.01 + 0.91 = 21.92
Depth to Water Below MP (ft.): 15.16
Depth to Ice (if frozen) Below MP (ft.): —
Feet of Water in Well: 6.76
Gallons per foot: 0.17
Gallons in Well: 1.15 x3 = 3.45
Purge Water Volume (gal.): ~1.2
Purge Water Disposal: 55-gal drum

Monument Condition: good
Casing Condition: good
Wiring Condition (dedicated pumps): N/A

Measuring Point (MP): Top of Casing (TOC)
Monument type: Stickup / Flushmount
Measurement method: Rod & level / Tape measure

Top-of-casing to monument (ft.): 0.30
Monument to ground surface (ft.): —

Datalogger type: n/a
Datalogger serial #: n/a
Measured cable length (ft.): n/a

- ☐ Lock present and operational N/A
- ☐ Well name legible on outside of well
- ☐ Evidence of frost-jacking

Notes

WELL CASING VOLUMES

Diameter of Well [ID-inches]	CMT	1¼	2	3	4	6	8
Gallons per lineal foot	0.000253	0.08	0.17	0.38	0.66	1.5	2.6

DHF

Well No.
MW-2R

MONITORING WELL SAMPLING LOG

Field Parameter Instrument YSI - C Circle one: Parameters stabilized or >3 well volumes purged

Sample Observations

Notes

FIELD PARAMETERS [stabilization criteria]

Time	Temp. (°C)	Dissolved Oxygen (mg/L) [±0.1]	Conductivity (µS/cm) [± 3%]	pH [± 0.1]	ORP (mV) [± 10 mV]	Water Clarity (visual)
1131	6.1	0.89	622	6.92	120.6	clear
1134	4.6	0.57	603	6.97	121.4	clear
1137	4.5	0.58	599	6.98	121.3	clear
1140	4.5	0.53	601	7.01	121.1	clear
1143	4.5	0.50	603	6.99	120.6	clear
Sampled @ 1145						

12min

Laboratory SGS

	Analysis	Sample Containers	Preservatives	Dup
☐	VOC	3 x 40mL	HCl	☐
☐				☐
☐				☐
☐				☐
☐				☐
☐				☐

Well No.

MW-2R

DHF

MONITORING WELL SAMPLING LOG

Owner/Client: The Krausz Companies
Location: Starbucks parking lot (well closer to bldg)
Sampling Personnel: KND
Weather Conditions: Sunny Air Temp. (°F): 50s

Project No.: 107889-001
Date: 8/18/22
Well: MW-3R
Time started: 0930
Time completed: 1115

Sample No.: MW-3R Time: 1055
Duplicate: – Time: –
Equipment Blank: – Time: –

Pump: Submersible
Purging Method: (portable) / dedicated pump
Pumping Start: 1008
Purge Rate (gal./min.): 0.1
Pumping End: 1053

Pump Set Depth Below MP (ft.): 43
KuriTec Tubing (ft.): 48
TruPoly Tubing (ft.): –

Diameter and Type of Casing: 2"
Approximate Total Depth of Well Below MP (ft.): ~~45.74~~
Measured Total Depth of Well Below MP (ft.): 44.96 + 0.91 = 45.87
Depth to Water Below MP (ft.): 15.19
Depth to Ice (if frozen) Below MP (ft.): –
Feet of Water in Well: 30.68
Gallons per foot: 0.17
Gallons in Well: 5.22 x3 = 15.66
Purge Water Volume (gal.): ~4.5
Purge Water Disposal: 55-gallon drum

Monument Condition: good

Casing Condition: good

Wiring Condition (dedicated pumps): N/A

Measuring Point (MP): Top of Casing (TOC)

Monument type: Stickup / (Flushmount)
Measurement method: Rod & level / (Tape measure)

Top-of-casing to monument (ft.): 0.24
Monument to ground surface (ft.): –

Datalogger type: n/a
Datalogger serial #: n/a
Measured cable length (ft.): n/a

- ☐ Lock present and operational N/A
- ☐ Well name legible on outside of well
- ☐ Evidence of frost-jacking

Notes

WELL CASING VOLUMES

Diameter of Well [ID-inches]	CMT	1¼	(2)	3	4	6	8
Gallons per lineal foot	0.000253	0.08	0.17	0.38	0.66	1.5	2.6

DHF

MONITORING WELL SAMPLING LOG

Field Parameter Instrument YSI - C Circle one: *Parameters stabilized or >3 well volumes purged*

Sample Observations _____

Notes _____

FIELD PARAMETERS [stabilization criteria]

Time	Temp. (°C)	Dissolved Oxygen (mg/L) [±0.1]	Conductivity (µS/cm) [± 3%]	pH [± 0.1]	ORP (mV) [± 10 mV]	Water Clarity (visual)
1008	5.7	2.96	250.0	4.66	233.6	clear
1011	4.2	1.07	439.9	5.89	197.3	clear
1014	4.1	0.80	441.0	6.28	182.8	clear
1017	4.1	0.70	440.6	6.49	172.6	clear
1020	4.1	0.59	438.5	6.58	166.2	clear
1023	4.0	0.64	438.0	6.65	160.8	clear
1026	4.0	0.90	437.3	6.69	156.0	clear
1029	4.0	1.17	437.4	6.71	151.5	clear
1032	4.0	1.16	436.5	6.74	147.9	clear
1035	4.0	0.97	437.0	6.75	144.1	clear
1038	4.0	0.77	437.0	6.77	141.0	clear
1041	4.0	0.62	437.3	6.78	137.9	clear
1044	3.8	0.54	434.7	6.79	135.3	clear
1047	3.8	0.47	434.1	6.79	132.7	clear
1050	3.8	0.45	434.7	6.81	130.1	clear
1053	3.7	0.41	433.4	6.81	127.7	clear
sampled @ 1055						

45 min

Laboratory SGS

	Analysis	Sample Containers	Preservatives	Dup
☐	VOC	3x - 40mL	HCl	☐
☐				☐
☐				☐
☐				☐
☐				☐
☐				☐

DHF

Well No.

MW-3R

MONITORING WELL SAMPLING LOG

Owner/Client: The Krausz Companies
Location: Starbucks parking lot
Sampling Personnel: KND
Weather Conditions: Sunny Air Temp. (°F): 60s

Project No.: 107889-001
Date: 8/18/22
Well: MW-4R
Time started: 1630
Time completed: 1740

Sample No.: MW-4R Time: 1720
Duplicate: — Time: —
Equipment Blank: — Time: —

Pump: Submersible
Purging Method: (portable) / dedicated pump
Pumping Start: 1652
Purge Rate (gal./min.): 0.1
Pumping End: 1716

Diameter and Type of Casing: 2"
Approximate Total Depth of Well Below MP (ft.): 20.21
Measured Total Depth of Well Below MP (ft.): 19.26 + 0.91 = 20.17
Depth to Water Below MP (ft.): 13.96
Depth to Ice (if frozen) Below MP (ft.): —

Pump Set Depth Below MP (ft.): 18
KuriTec Tubing (ft.): 22
TruPoly Tubing (ft.): —

Feet of Water in Well: 6.21
Gallons per foot: 0.17
Gallons in Well: 1.06 x3 = 3.17
Purge Water Volume (gal.): ~2.4
Purge Water Disposal: 55-gallon drum

Monument Condition: good

Casing Condition: good

Wiring Condition (dedicated pumps): N/A

Measuring Point (MP): Top of Casing (TOC)

Monument type: Stickup / (Flushmount)
Measurement method: Rod & level / (Tape measure)

Top-of-casing to monument (ft.): 0.26
Monument to ground surface (ft.): —

Datalogger type: n/a
Datalogger serial #: n/a
Measured cable length (ft.): n/a

- ☐ Lock present and operational N/A
- ☐ Well name legible on outside of well
- ☐ Evidence of frost-jacking

Notes

WELL CASING VOLUMES

Diameter of Well [ID-inches]	CMT	1¼	2	3	4	6	8
Gallons per lineal foot	0.000253	0.08	0.17	0.38	0.66	1.5	2.6

DHF

MONITORING WELL SAMPLING LOG

Field Parameter Instrument YSI-C Circle one: ~~Parameters stabilized~~ or >3 well volumes purged

Sample Observations

Notes

FIELD PARAMETERS [stabilization criteria]

Time	Temp. (°C)	Dissolved Oxygen (mg/L) [±0.1]	Conductivity (µS/cm) [± 3%]	pH [± 0.1]	ORP (mV) [± 10 mV]	Water Clarity (visual)
1652	6.6	3.91	717	6.81	161.7	clear
1655	3.9	2.93	656	6.85	166.0	clear
1658	3.9	2.50	652	6.86	167.4	clear
1701	3.8	2.01	644	6.89	168.0	clear
1704	3.8	1.64	639	6.89	168.2	clear
1707	3.8	1.59	635	6.89	168.3	clear
1710	3.8	1.34	632	6.89	168.3	clear
1713	3.7	1.30	629	6.89	168.3	clear
1716	3.8	1.27	627	6.90	168.2	clear
Sampled @		1720				

24 min

Laboratory SGS

	Analysis	Sample Containers	Preservatives	Dup
☐	VOC	3x-40mL	HCl	☐
☐				☐
☐				☐
☐				☐
☐				☐
☐				☐

DHF

Well No.

MW-4R

MONITORING WELL SAMPLING LOG

Owner/Client: The Krausz Companies
Location: Key Bank
Sampling Personnel: KND
Weather Conditions: cloudy Air Temp. (°F): 60s

Project No.: 107889-001
Date: 8/19/22
Well: MW-5
Time started: 1240
Time completed: 1415

Sample No.: MW-5 Time: 1332
Duplicate: MW-105 Time: 1322
Equipment Blank: — Time: —

Pump: submersible
Purging Method: portable / dedicated pump
Pumping Start: 1314
Purge Rate (gal./min.): 0.1
Pumping End: 1329

Pump Set Depth Below MP (ft.): 27
KuriTec Tubing (ft.): 30
TruPoly Tubing (ft.): —

Diameter and Type of Casing: 2"
Approximate Total Depth of Well Below MP (ft.): 29.53
Measured Total Depth of Well Below MP (ft.): 28.43+0.91 = 29.34
Depth to Water Below MP (ft.): 17.29
Depth to Ice (if frozen) Below MP (ft.): —
Feet of Water in Well: 12.05
Gallons per foot: 0.17
Gallons in Well: 2.05 x3 = 6.15
Purge Water Volume (gal.): ~1.5
Purge Water Disposal: 1le gallon drum

Monument Condition: good

Casing Condition: good

Wiring Condition (dedicated pumps): N/A

Measuring Point (MP): Top of Casing (TOC)
Monument type: Stickup / Flushmount
Measurement method: Rod & level / Tape measure

Top-of-casing to monument (ft.): 0.52
Monument to ground surface (ft.): 1.77

Datalogger type: n/a
Datalogger serial #: n/a
Measured cable length (ft.): n/a

- ☐ Lock present and operational
- ☑ Well name legible on outside of well
- ☐ Evidence of frost-jacking

Notes

WELL CASING VOLUMES

Diameter of Well [ID-inches]	CMT	1¼	2	3	4	6	8
Gallons per lineal foot	0.000253	0.08	0.17	0.38	0.66	1.5	2.6

Well No.
MW-5

DHF

MONITORING WELL SAMPLING LOG

Field Parameter Instrument YSI-C Circle one: *Parameters stabilized* or *>3 well volumes purged*

Sample Observations _____

Notes _____

FIELD PARAMETERS [stabilization criteria]

Time	Temp. (°C)	Dissolved Oxygen (mg/L) [±0.1]	Conductivity (µS/cm) [± 3%]	pH [± 0.1]	ORP (mV) [± 10 mV]	Water Clarity (visual)
1314	4.5	2.38	537	6.86	208.8	cloudy
1317	3.8	0.49	529	6.80	201.7	cloudy
1320	3.9	0.38	528	6.79	194.5	cloudy
1323	3.9	0.37	527	6.79	190.0	cloudy
1326	3.8	0.35	526	6.80	184.8	clear
1329	3.8	0.36	525	6.80	180.2	clear
[illegible]						
sampled @ 1332						

15 min

Laboratory SGS

	Analysis	Sample Containers	Preservatives	Dup
☐	VOC	6 x -40mL	HCl	☑
☐				☐
☐				☐
☐				☐
☐				☐
☐				☐

Well No. MW-5

DHF

MONITORING WELL SAMPLING LOG

Owner/Client: The Krausz Companies
Location: Key Bank
Sampling Personnel: KND
Weather Conditions: cloudy Air Temp. (°F): 50s

Project No.: 107889-001
Date: 8/19/22
Well: MW-6
Time started: 1130
Time completed: 1240

Sample No.: MW-6 Time: 1235
Duplicate: — Time: —
Equipment Blank: — Time: —

Pump: submersible
Purging Method: (portable) / dedicated pump
Pumping Start: 1211
Purge Rate (gal./min.): 0.2
Pumping End: 1232

Diameter and Type of Casing: 2"
Approximate Total Depth of Well Below MP (ft.): 20.79
Measured Total Depth of Well Below MP (ft.): 19.75+0.91= 20.66
Depth to Water Below MP (ft.): 17.13
Depth to Ice (if frozen) Below MP (ft.): —

Pump Set Depth Below MP (ft.): 18
KuriTec Tubing (ft.): 30
TruPoly Tubing (ft.): —

Feet of Water in Well: 3.53
Gallons per foot: 0.17
Gallons in Well: 0.60 x3 = 1.80
Purge Water Volume (gal.): ~~4~~ 4.2
Purge Water Disposal: 16-gallon drum

Monument Condition: good

Casing Condition: good

Wiring Condition (dedicated pumps): N/A

Measuring Point (MP): Top of Casing (TOC)

Monument type: (Stickup) / Flushmount
Measurement method: Rod & level / (Tape measure)

Top-of-casing to monument (ft.): 0.40
Monument to ground surface (ft.): 1.60

Datalogger type: n/a
Datalogger serial #: n/a
Measured cable length (ft.): n/a

- [x] Lock present and operational
- [x] Well name legible on outside of well
- [ ] Evidence of frost-jacking

Notes

WELL CASING VOLUMES

Diameter of Well [ID-inches]	CMT	1¼	(2)	3	4	6	8
Gallons per lineal foot	0.000253	0.08	0.17	0.38	0.66	1.5	2.6

DHF

Well No.
MW-6

MONITORING WELL SAMPLING LOG

Field Parameter Instrument YSI-C Circle one: *Parameters stabilized* or *>3 well volumes purged*

Sample Observations

Notes

FIELD PARAMETERS [stabilization criteria]

Time	Temp. (°C)	Dissolved Oxygen (mg/L) [±0.1]	Conductivity (µS/cm) [± 3%]	pH [± 0.1]	ORP (mV) [± 10 mV]	Water Clarity (visual)
1211	4.1	2.01	568	5.49	260.2	clear
1214	3.2	1.06	554	6.05	237.3	clear
1217	3.1	1.10	557	6.42	223.6	clear
1220	3.0	1.55	561	6.54	217.7	clear
1223	3.4	2.13	571	6.61	214.6	clear
1226	3.7	2.25	577	6.65	212.0	clear
1229	3.4	2.17	575	6.67	210.4	clear
1232	3.5	1.91	578	6.69	209.1	clear
sampled @ 1235						

21 min

Laboratory SGS

	Analysis	Sample Containers	Preservatives	Dup
☐	VOC	3x - 40mL	HCl	☐
☐				☐
☐				☐
☐				☐
☐				☐
☐				☐

DHF

Well No. MW-6

MONITORING WELL SAMPLING LOG

Owner/Client: The Krausz Companies
Location: Regency Court mall
Sampling Personnel: KND
Weather Conditions: rainy / overcast Air Temp. (°F) 60s

Project No. 107889-001
Date 8/18/22
Well MW-7
Time started 1810
Time completed 1930

Sample No. MW-7 Time 1905
Duplicate — Time —
Equipment Blank — Time —

Pump Submersible
Purging Method portable / dedicated pump
Pumping Start 1846
Purge Rate (gal./min.) 0.1
Pumping End 1901

Pump Set Depth Below MP (ft.) 21
KuriTec Tubing (ft.) 26
TruPoly Tubing (ft.) —

Diameter and Type of Casing 2"
Approximate Total Depth of Well Below MP (ft.) 23.75
Measured Total Depth of Well Below MP (ft.) 22.73+0.91 = 23.64
Depth to Water Below MP (ft.) 19.42
Depth to Ice (if frozen) Below MP (ft.) —
Feet of Water in Well 4.22
Gallons per foot 0.17
Gallons in Well 0.72 x3 = 2.15
Purge Water Volume (gal.) ~1.5 gal
Purge Water Disposal 55-gal drum

Monument Condition good

Casing Condition good

Wiring Condition (dedicated pumps) N/A

Measuring Point (MP) Top of Casing (TOC)

Monument type: Stickup / Flushmount
Measurement method: Rod & level / Tape measure

Top-of-casing to monument (ft.) 0.34
Monument to ground surface (ft.) 2.80

Datalogger type n/a
Datalogger serial # n/a
Measured cable length (ft.) n/a

- ☐ Lock present and operational
- ☐ Well name legible on outside of well
- ☐ Evidence of frost-jacking

Notes

WELL CASING VOLUMES

Diameter of Well [ID-inches]	CMT	1¼	2	3	4	6	8
Gallons per lineal foot	0.000253	0.08	0.17	0.38	0.66	1.5	2.6

DHF

MONITORING WELL SAMPLING LOG

Field Parameter Instrument YSI-C Circle one: *Parameters stabilized or >3 well volumes purged*

Sample Observations

Notes

FIELD PARAMETERS [stabilization criteria]

Time	Temp. (°C)	Dissolved Oxygen (mg/L) [±0.1]	Conductivity (µS/cm) [± 3%]	pH [± 0.1]	ORP (mV) [± 10 mV]	Water Clarity (visual)
1846	5.8	3.21	600	7.07	176.9	cloudy
1849	4.2	2.45	560	6.96	175.1	cloudy
1852	3.6	1.34	545	6.89	169.8	cloudy
1855	3.5	1.01	541	6.88	166.1	clear
1858	3.4	1.04	539	6.89	161.2	clear
1901	3.4	1.02	538	6.89	157.3	clear
sampled @ 1905						

15min

Laboratory SGS

	Analysis	Sample Containers	Preservatives	Dup
☐	VOC	3x-40mL	HCl	☐
☐				☐
☐				☐
☐				☐
☐				☐
☐				☐

Well No. MW-7

DHF

MONITORING WELL SAMPLING LOG

Owner/Client: The Krausz Companies
Location: Adjacent to Monroe HS Gym
Sampling Personnel: DHF + KND
Weather Conditions: Sunny Air Temp. (°F): 70's

Project No.: 107889
Date: 8/17/22
Well: MW-8
Time started: 1420
Time completed: 1530

Sample No.: MW-8 Time: 1515
Duplicate: — Time: —
Equipment Blank: — Time: —

Pump: Submersible
Purging Method: portable / dedicated pump
Pumping Start: 1432
Purge Rate (gal./min.): 0.1
Pumping End: 1514

Pump Set Depth Below MP (ft.): 18
KuriTec Tubing (ft.): 21
TruPoly Tubing (ft.): —

Diameter and Type of Casing: 2" PVC
Approximate Total Depth of Well Below MP (ft.): —
Measured Total Depth of Well Below MP (ft.): 19.21 + 0.91 = 20.12
Depth to Water Below MP (ft.): 11.73
Depth to Ice (if frozen) Below MP (ft.): —
Feet of Water in Well: 8.39
Gallons per foot: 0.17
Gallons in Well: 1.43
Purge Water Volume (gal.): ~1.4
Purge Water Disposal: 55-gal drum

Monument Condition: good

Casing Condition: good

Wiring Condition (dedicated pumps): N/A

Measuring Point (MP): Top of Casing (TOC)
Monument type: Stickup / Flushmount
Measurement method: Rod & level / Tape measure

Top-of-casing to monument (ft.): 0.41
Monument to ground surface (ft.): 0

Datalogger type: n/a
Datalogger serial #: n/a
Measured cable length (ft.): n/a

- ☐ Lock present and operational N/A
- ☐ Well name legible on outside of well
- ☐ Evidence of frost-jacking

Notes

WELL CASING VOLUMES

Diameter of Well [ID-inches]	CMT	1¼	2	3	4	6	8
Gallons per lineal foot	0.000253	0.08	0.17	0.38	0.66	1.5	2.6

DHF

MONITORING WELL SAMPLING LOG

Field Parameter Instrument YSI - C Circle one: *Parameters stabilized or >3 well volumes purged*

Sample Observations

Notes

FIELD PARAMETERS [stabilization criteria]

Time	Temp. (°C)	Dissolved Oxygen (mg/L) [±0.1]	Conductivity (µS/cm) [± 3%]	pH [± 0.1]	ORP (mV) [± 10 mV]	Water Clarity (visual)
1432	9.6	6.09	736	7.01	108.7	turbid
1435	6.5	5.38	679	6.98	111.9	turbid
1438	7.0	5.15	687	6.96	113.0	turbid
1441	6.6	5.22	680	6.95	114.1	cloudy
1444	6.4	5.13	673	6.95	114.9	cloudy w/some sed.
1447	5.0	5.04	648	6.96	116.3	clear
~~Sampled @ 1447~~						
1450	4.9	4.50	640	6.96	116.9	clear
1453	4.8	4.19	635	6.97	117.4	clear
1456	4.7	3.98	632	6.97	117.6	clear
1459	4.7	3.69	631	6.98	117.8	clear
1502	5.0	3.67	634	6.97	117.9	clear
1505	5.2	3.90	640	6.98	118.0	clear
1508	5.1	3.65	637	6.98	118.2	clear
1511	5.1	3.61	636	6.99	118.5	clear
1514	5.1	3.63	638	6.98	118.9	clear
Sampled @	1515					

42 min

Laboratory SGS

	Analysis	Sample Containers	Preservatives	Dup
☐	VOC	3 x - 40mL	HCl	☐
☐				☐
☐				☐
☐				☐
☐				☐
☐				☐

Well No. MW-8

DHF

MONITORING WELL SAMPLING LOG

Owner/Client: The Krausz Companies
Location: At Ina and Ellingson
Sampling Personnel: DHF + KND
Weather Conditions: Sunny Air Temp. (°F): 60's

Project No.: 107889
Date: 8/17/22
Well: MW-9
Time started: 900
Time completed: 1035

Sample No.: MW-9 Time: 1016
Duplicate: — Time: —
Equipment Blank: — Time: —

Pump: Submersible
Purging Method: portable / dedicated pump
Pumping Start: 0943
Purge Rate (gal./min.): 0.1
Pumping End: 1013

Pump Set Depth Below MP (ft.): 18
KuriTec Tubing (ft.): 30
TruPoly Tubing (ft.): —

Diameter and Type of Casing: 2" PVC
Approximate Total Depth of Well Below MP (ft.): —
Measured Total Depth of Well Below MP (ft.): 19.76+0.7 = 20.46
Depth to Water Below MP (ft.): 11.29
Depth to Ice (if frozen) Below MP (ft.): —
Feet of Water in Well: 9.17
Gallons per foot: 0.17
Gallons in Well: 1.56
Purge Water Volume (gal.): ~3
Purge Water Disposal: 55-gallon drum

Monument Condition: good

Casing Condition: good

Wiring Condition (dedicated pumps): n/a

Measuring Point (MP): Top of Casing (TOC)
Monument type: Stickup / Flushmount
Measurement method: Rod & level / Tape measure

Top-of-casing to monument (ft.): 0.73
Monument to ground surface (ft.): —

Datalogger type: n/a
Datalogger serial #: n/a
Measured cable length (ft.): n/a

- ☐ Lock present and operational N/A
- ☐ Well name legible on outside of well
- ☐ Evidence of frost-jacking

Notes

WELL CASING VOLUMES

Diameter of Well [ID-inches]	CMT	1¼	2	3	4	6	8
Gallons per lineal foot	0.000253	0.08	0.17	0.38	0.66	1.5	2.6

DHF

MONITORING WELL SAMPLING LOG

Field Parameter Instrument YSI-C Circle one: *Parameters stabilized* or *>3 well volumes purged* (NO)

Sample Observations

Notes

FIELD PARAMETERS [stabilization criteria]

Time	Temp. (°C)	Dissolved Oxygen (mg/L) [±0.1]	Conductivity (µS/cm) [± 3%]	pH [± 0.1]	ORP (mV) [± 10 mV]	Water Clarity (visual)
0943	4.6	11.6	598	6.59	161.7	cloudy
0946	4.3	11.03	589	6.73	159.2	clear
0949	4.2	10.63	586	6.81	158.2	clear
0952	4.2	10.42	585	6.85	158.0	clear
0955	4.1	10.39	586	6.87	158.6	clear
0958	4.2	10.14	586	6.89	159.2	clear
1001	4.1	9.94	584	6.90	159.9	clear
1004	4.1	9.55	582	6.90	160.6	clear
1007	4.0	9.85	579	6.91	161.3	clear
1010	4.0	9.03	576	6.91	161.8	clear
1013	4.0	8.93	576	6.92	162.4	clear
sampled @ 1016						

30 min

Laboratory SGS

	Analysis	Sample Containers	Preservatives	Dup
☐	VOC	3x - 40mL	HCl	☐
☐				☐
☐				☐
☐				☐
☐				☐
☐				☐

Well No.

MW-9

DHF

MONITORING WELL SAMPLING LOG

Owner/Client: The Krausz Companies
Location: At Noyes and Ira St.
Sampling Personnel: DHF & KND
Weather Conditions: Sunny Air Temp. (°F): 60s

Project No.: 107889
Date: 8/17/22
Well: MW-10
Time started: 1046
Time completed: 1135

Sample No.: MW-10 Time: 1120
Duplicate: — Time: —
Equipment Blank: — Time: —

Pump: Submersible
Purging Method: ~~portable~~ / *dedicated pump*
Pumping Start: 1101
Purge Rate (gal./min.): 0.1
Pumping End: 1119

Pump Set Depth Below MP (ft.): 18
KuriTec Tubing (ft.): 20
TruPoly Tubing (ft.): —

Diameter and Type of Casing: 2" PVC
Approximate Total Depth of Well Below MP (ft.): —
Measured Total Depth of Well Below MP (ft.): 19.89
Depth to Water Below MP (ft.): 12.73
Depth to Ice (if frozen) Below MP (ft.): —
Feet of Water in Well: 7.16
Gallons per foot: 0.17
Gallons in Well: 1.22
Purge Water Volume (gal.): ~2.5
Purge Water Disposal: 55-gallon drum

Monument Condition: good

Casing Condition: good

Wiring Condition (dedicated pumps): N/A

Measuring Point (MP): *Top of Casing (TOC)*
Monument type: *Stickup* / ~~*Flushmount*~~
Measurement method: *Rod & level* / ~~*Tape measure*~~

Top-of-casing to monument (ft.): 0.51
Monument to ground surface (ft.): 0

Datalogger type: n/a
Datalogger serial #: n/a
Measured cable length (ft.): n/a

- ☐ Lock present and operational
- ☐ Well name legible on outside of well
- ☐ Evidence of frost-jacking

Notes

WELL CASING VOLUMES

Diameter of Well [ID-inches]	CMT	1¼	2	3	4	6	8
Gallons per lineal foot	0.000253	0.08	0.17	0.38	0.66	1.5	2.6

DHF

MONITORING WELL SAMPLING LOG

Field Parameter Instrument YSI-C Circle one: *Parameters stabilized, or >3 well volumes purged*

Sample Observations

Notes

FIELD PARAMETERS [stabilization criteria]

Time	Temp. (°C)	Dissolved Oxygen (mg/L) [±0.1]	Conductivity (µS/cm) [± 3%]	pH [± 0.1]	ORP (mV) [± 10 mV]	Water Clarity (visual)
1101	7.5	1.63	568	6.88	164.3	brown
1104	5.2	0.79	536	6.78	144.4	brown
1107	5.3	0.59	533	6.79	132.5	cloudy
1110	5.2	0.53	531	6.80	125.3	cloudy
1113	5.2	0.51	531	6.83	119.0	slightly cloudy
1116	5.1	0.48	529	6.84	114.1	clear, some sand
1119	5.1	0.43	530	6.85	110.2	"
sampled @ 1120						

18min

Laboratory SGS

	Analysis	Sample Containers	Preservatives	Dup
☐	VOC	3×40mL	HCl	☐
☐				☐
☐				☐
☐				☐
☐				☐
☐				☐

Well No. MW-10

DHF

MONITORING WELL SAMPLING LOG

Owner/Client: The Krausz Companies
Location: On Ina St. between Betty & Charles
Sampling Personnel: DHF & KND
Weather Conditions: Sunny Air Temp. (°F): 70's

Project No.: 107889
Date: 8/17/22
Well: MW-11
Time started: 1530
Time completed: 1630

Sample No.: MW-11 Time: 1619
Duplicate: — Time: —
Equipment Blank: — Time: —

Pump: Submersible
Purging Method: (portable) / dedicated pump
Pumping Start: 1542
Purge Rate (gal./min.): 0.2
Pumping End: 1618

Diameter and Type of Casing: 2" PVC
Approximate Total Depth of Well Below MP (ft.): —
Measured Total Depth of Well Below MP (ft.): 19.13+0.91 = 20.04
Depth to Water Below MP (ft.): 11.77
Depth to Ice (if frozen) Below MP (ft.): —
Feet of Water in Well: 8.27
Gallons per foot: 0.17
Gallons in Well: 1.41 x3 = 4.23
Purge Water Volume (gal.): ~~7.2~~ 7.2
Purge Water Disposal: 55-gallon drum

Pump Set Depth Below MP (ft.): 18
KuriTec Tubing (ft.): 30
TruPoly Tubing (ft.): —

Monument Condition: good
Casing Condition: good
Wiring Condition (dedicated pumps): N/A

Measuring Point (MP): Top of Casing (TOC)
Monument type: Stickup / ~~Flushmount~~
Measurement method: Rod & level / Tape measure

Top-of-casing to monument (ft.): 0.68
Monument to ground surface (ft.): 0

Datalogger type: n/a
Datalogger serial #: n/a
Measured cable length (ft.): n/a

- ☐ Lock present and operational N/A
- ☐ Well name legible on outside of well
- ☐ Evidence of frost-jacking

Notes

WELL CASING VOLUMES

Diameter of Well [ID-inches]	CMT	1¼	2	3	4	6	8
Gallons per lineal foot	0.000253	0.08	0.17	0.38	0.66	1.5	2.6

DHF

MONITORING WELL SAMPLING LOG

Field Parameter Instrument YSI-C Circle one: *Parameters stabilized* or *>3 well volumes purged*

Sample Observations

Notes

FIELD PARAMETERS [stabilization criteria]

Time	Temp. (°C)	Dissolved Oxygen (mg/L) [±0.1]	Conductivity (µS/cm) [± 3%]	pH [± 0.1]	ORP (mV) [± 10 mV]	Water Clarity (visual)
1542	10.4	6.98	733	6.96	103.9	dark, turbid
1545	7.3	7.30	674	6.92	113.9	dark, turbid
1548	7.5	6.93	674	6.92	118.2	cloudy
1551	7.6	6.45	669	6.92	121.7	clear
1554	7.5	6.14	664	6.92	123.8	clear
1557	7.7	5.55	662	6.92	125.7	clear
1600	8.0	5.28	666	6.92	127.3	clear
1603	8.1	5.14	666	6.92	128.7	clear
1606	8.0	4.97	664	6.92	130.2	clear
1609	8.0	4.82	662	6.92	131.7	clear
1612	8.1	4.63	663	6.92	132.8	clear
1615	8.0	4.52	659	6.92	134.3	clear
1618	8.0	4.38	659	6.92	135.4	clear
Sampled @ 1619						

36min

Laboratory SGS

	Analysis	Sample Containers	Preservatives	Dup
☐	VOC	3x40mL	HCl	☐
☐				☐
☐				☐
☐				☐
☐				☐
☐				☐

Well No. MW-11

DHE

MONITORING WELL SAMPLING LOG

Owner/Client: The Krausz Companies
Location: REI parking lot
Sampling Personnel: KND
Weather Conditions: Sunny Air Temp. (°F): 60s

Project No.: 107889-001
Date: 8/18/22
Well: MW-12
Time started: 1220
Time completed: 1350

Sample No.: MW-12 Time: 1323
Duplicate: — Time: —
Equipment Blank: — Time: —

Pump: Submersible
Purging Method: (portable) / dedicated pump
Pumping Start: 1249
Purge Rate (gal./min.): 0.1
Pumping End: 1320

Diameter and Type of Casing: 2"
Approximate Total Depth of Well Below MP (ft.): 20.31
Measured Total Depth of Well Below MP (ft.): 19.25+0.91 = 20.16
Depth to Water Below MP (ft.): 14.82
Depth to Ice (if frozen) Below MP (ft.): —
Feet of Water in Well: 5.34
Gallons per foot: 0.17
Gallons in Well: 0.91 x3 = 2.73
Purge Water Volume (gal.): ~3.1
Purge Water Disposal: 55-gal drum

Pump Set Depth Below MP (ft.): 18
KuriTec Tubing (ft.): 21
TruPoly Tubing (ft.): —

27 min to 3WV

Monument Condition: sinking into ground

Casing Condition: good

Wiring Condition (dedicated pumps): N/A

Measuring Point (MP): Top of Casing (TOC)
Monument type: Stickup / (Flushmount)
Measurement method: Rod & level / (Tape measure)

Top-of-casing to monument (ft.): 0.37
Monument to ground surface (ft.): —

Datalogger type: n/a
Datalogger serial #: n/a
Measured cable length (ft.): n/a

- ☐ Lock present and operational N/A
- ☐ Well name legible on outside of well
- ☐ Evidence of frost-jacking

Notes: Monument sunk into ground & covered w/asphalt repair tar on one side. couldn't get screws to thread shut again after prying open

WELL CASING VOLUMES

Diameter of Well [ID-inches]	CMT	1¼	(2)	3	4	6	8
Gallons per lineal foot	0.000253	0.08	0.17	0.38	0.66	1.5	2.6

DHC

Well No.
MW-12

MONITORING WELL SAMPLING LOG

Field Parameter Instrument YSI-C Circle one: *Parameters stabilized or >3 well volumes purged*

Sample Observations

Notes

FIELD PARAMETERS [stabilization criteria]

Time	Temp. (°C)	Dissolved Oxygen (mg/L) [±0.1]	Conductivity (µS/cm) [± 3%]	pH [± 0.1]	ORP (mV) [± 10 mV]	Water Clarity (visual)
1249	6.6	6.19	1081	6.75	144.3	clear
1252	4.4	5.69	1023	6.70	142.6	clear
1255	4.3	5.21	1014	6.70	142.0	clear
1258	4.0	5.09	987	6.71	141.8	clear
1302	3.9	4.59	955	6.72	141.5	clear
1305	4.0	4.30	937	6.72	141.4	clear
1308	3.7	4.08	910	6.73	141.4	clear
31 min 1311	3.8	3.77	891	6.73	141.4	clear
1314	3.7	3.54	867	6.74	141.5	clear
1317	3.7	3.29	849	6.74	141.5	clear
1320	3.7	3.14	830	6.75	141.6	clear
sampled @ 1323						

Laboratory SGS

	Analysis	Sample Containers	Preservatives	Dup
☐	VOC	3x - 40mL	HCl	☐
☐				☐
☐				☐
☐				☐
☐				☐
☐				☐

Well No.

MW-12

DHF

MONITORING WELL SAMPLING LOG

Owner/Client: The Krausz Companies
Location: Foundation Health parking lot
Sampling Personnel: KND
Weather Conditions: sunny Air Temp. (°F): 60s

Project No.: 107889-001
Date: 8/18/22
Well: MW-13
Time started: 1400
Time completed: 1540

Sample No.: MW-13 Time: 1455
Duplicate: — Time: —
Equipment Blank: — Time: —

Pump: Submersible
Purging Method: (portable) / dedicated pump
Pumping Start:
Purge Rate (gal./min.): 0.1
Pumping End:

Pump Set Depth Below MP (ft.): 18
KuriTec Tubing (ft.): 22
TruPoly Tubing (ft.): —

Diameter and Type of Casing: 2"
Approximate Total Depth of Well Below MP (ft.): 20.55
Measured Total Depth of Well Below MP (ft.): 19.76 + 0.91 = 20.67
Depth to Water Below MP (ft.): 15.14
Depth to Ice (if frozen) Below MP (ft.): —
Feet of Water in Well: 5.53
Gallons per foot: 0.17
Gallons in Well: 0.94 ×3 = 2.82
Purge Water Volume (gal.): ~2.4
Purge Water Disposal: 55-gal drum

Monument Condition: good
Casing Condition: good
Wiring Condition (dedicated pumps): N/A

Measuring Point (MP): Top of Casing (TOC)
Monument type: Stickup / (Flushmount)
Measurement method: Rod & level / (Tape measure)

Top-of-casing to monument (ft.): 0.40
Monument to ground surface (ft.): —

Datalogger type: n/a
Datalogger serial #: n/a
Measured cable length (ft.): n/a

- ☐ Lock present and operational N/A
- ☐ Well name legible on outside of well
- ☐ Evidence of frost-jacking

Notes:

WELL CASING VOLUMES

Diameter of Well [ID-inches]	CMT	1¼	(2)	3	4	6	8
Gallons per lineal foot	0.000253	0.08	0.17	0.38	0.66	1.5	2.6

DHE

MONITORING WELL SAMPLING LOG

Field Parameter Instrument YSI-C Circle one: *Parameters stabilized or >3 well volumes purged*

Sample Observations

Notes

FIELD PARAMETERS [stabilization criteria]

Time	Temp. (°C)	Dissolved Oxygen (mg/L) [±0.1]	Conductivity (µS/cm) [± 3%]	pH [± 0.1]	ORP (mV) [± 10 mV]	Water Clarity (visual)
1428	6.0	4.33	909	6.71	169.2	clear
1431	4.0	3.33	847	6.62	171.8	clear
1434	3.8	2.90	848	6.62	172.5	clear
1437	3.7	2.43	841	6.62	172.5	clear
1440	3.5	2.07	829	6.62	172.3	clear
1443	3.6	1.85	827	6.66	172.1	clear
1446	3.6	1.75	817	6.65	171.9	clear
1449	3.6	1.78	813	6.65	171.8	clear
1452	3.5	1.70	814	6.66	171.8	clear
Sampled @ 1455						

24 min

Laboratory SGS

	Analysis	Sample Containers	Preservatives	Dup
☐	VOC	3 × 40mL	HCl	☐
☐				☐
☐				☐
☐				☐
☐				☐
☐				☐

DHF

Well No. MW-13

DAILY WORK REPORT

SERVICE DATE
07 Sep 2022

CUSTOMER NAME	PROJECT NAME	PROJECT NUMBER
Shannon & Wilson	F002 IDW WATER	182888
CUSTOMER POINT OF CONTACT	**PROJECT LOCATION**	**CUSTOMER PO.**
DANA FJARE	BENTLY MALL	

PHONE NO.	CELL NO.	CITY	STATE	ZIP	PROJECT MANAGER	PHONE #
907-479-0600	907-987-7174	FAIRBANKS	AK		Kimberly Curtiss	

MANIFEST #:	EW Doc #	SCOPE OF WORK TO BE COMPLETED
008737194FLE	D44570	Provide truck and driver to pick up (2) 55-gallon drums of IDW water for transportation and disposal.

LABOR

Employee Name	Category	Start Time	Stop Time	ST Hrs	OT Hrs	TOTAL	PPE/Comments
Coltin Sailor	Driver (650)	0830	0930	1		1	

NRC ALASKA-OWNED EQUIPMENT

Description	Unit Number	Start Time	Stop Time	TOTAL	Out	In	Comments
Flatbed Truck (AE-1002)	B023	0830	0930	1			

RENTAL EQUIPMENT

Description	Vendor	Start Time	Stop Time	Purchase Order #

MATERIALS & SUPPLIES

Description	Item Number	Qty Checked Out	Qty Checked In	Notes

Customer Name & Signature — Date

US ECOLOGY Alaska Representative — 07 Sep 2022 — Date

US ecology

Project Number: 182888

Service Date:

Time	Description
0830	began prep to p/u Drums left Shop
0840	arrived at location began pickup
0900	Drums labled and loaded headed back to Shop
0915	arrived at Shop
0930	truck unloaded job complete

For Facility-Use Only:

Client equipment #: Last contained: Clean cert required? Yes / No

Waste Recovered: Wash Water Generated from Cleaning: gal

Water: gal # containers Fuel: gal # containers Sludge: gal # containers

Oil: gal # containers Solids: gal # containers

Customer Name & Signature Date US ECOLOGY Alaska Representative Date

PO# 182888-6-3404-KC

182888-KC

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	AKR000207175	2	800-899-4672	008737194 FLE

GENERATOR

5. Generator's Name and Mailing Address
THE KRAUSZ COMPANIES, INC.
44 MONTGOMERY STREET SUITE 2388
SAN FRANCISCO, CA 94104
Generator's Phone:

Generator's Site Address (if different than mailing address)
BENTLEY MALL
32 COLLEGE ROAD
FAIRBANKS, AK 99701

6. Transporter 1 Company Name
US ECOLOGY
U.S. EPA ID Number
MIK593743838

7. Transporter 2 Company Name
WEAVER BROTHERS
U.S. EPA ID Number
AKD002848372

8. Designated Facility Name and Site Address
US ECOLOGY IDAHO, INC.
20400 LEMLEY RD
GRAND VIEW, ID 83624
(208) 834-2275
Facility's Phone:
U.S. EPA ID Number
IDD073114654

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. UN3082, Waste Environmentally hazardous substances, liquid, n.o.s. (TETRACHLOROETHENE, TRICHLOROFLUOROMETHANE), 9 , PGIII ERG#171	2	DM	500	P	F002
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1) USE52606 F002 IDW GROUNDWATER D44570

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Dana Fjare on behalf of The Krausz Companies
Signature: Dana Fjare on behalf of the Krausz companies
Month: 9 Day: 6 Year: 22

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Coltin Sailor
Signature: Coltin Sailor
Month: 09 Day: 07 Year: 22

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type.

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	AKR000207175	2 of 2	008737194FLE

24. Generator's Name: BENTLEY MALL
32 COLLEGE ROAD
FAIRBANKS. AK 99701

25. Transporter 3 Company Name: TOTE MARITIME ALASKA, LLC. U.S. EPA ID Number: WAD070397955

26. Transporter 4 Company Name: US ECOLOGY U.S. EPA ID Number: MK593743838

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

US Ecology, Inc. Land Disposal Restriction Form

US ecology

GENERATOR : BENTLEY MALL EPA I.D. NUMBER: AKR000207175

WASTE STREAM or PROFILE NUMBER: 52606-0 Manifest Doc. No. 008737104 Line No. 1

WASTE IS A: ☐ Wastewater (<1% TSS and TOC) ☑ Non-wastewater ☐ Debris

NOTIFICATION FREQUENCY: ☐ ONE TIME ☑ REQUIRED WITH EACH SHIPMENT

Shipment EPA WASTE CODES (from 40 CFR 268.40) F002

UHC's (Underlying Hazardous Constituents 40 CFR 268.48)? ☐ Yes ☑ No

If yes, list:

Does a subcategory apply per 40 CFR268.48 ? ☐ Yes ☑ No

If yes, list:

Constituents requiring treatment in F001-5,F039,debris, and alternate soils? ☐ Yes ☑ No

If yes, list:

☑ See Profile for analysis (if any).

A. ☑ **Restricted Waste Meets Treatment Standards (40 CFR 268.7(a) (3))**

The restricted waste identified above meets the treatment standards in 40 CFR 268.40 or Alternative LDR treatment standards for contaminated soil 40CFR268.49 and can be landfill disposed without further treatment.

If applicable, under 268.49, this contaminated soil ☐ does or ☑ does notcontain listed hazardous waste and ☐ does or ☑ dose not exhibit a characteristic of hazardous waste and complies with the soil treatment standards as provided by 268.49 (c) or the universal treatment standards.

I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

B. ☐ **Restricted Waste Treated To Treatment Standards (40 CFR 268.7(b) (I) & 268.7 (b) (2))**

The treatment residue, or extract of such residue, or the restricted waste identified above has been tested to assure that the treatment residues or extract meet all applicable treatment standards in 40 CFR 268.40 and/or performance standards in 40 CFR 268.45.

I certify under penalty of law that I personally have examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards specified in 40 CFR 268.40 without impermissible dilution of the prohibited waste. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

C. ☐ **Restricted Waste Soil Treated To Alternative Standards (40 CFR 268.7(b) (4))**

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and believe that it has been maintained and operated properly so as to comply with treatment standards specifed in 40 CFR 268.49 without impermissible dilution of the prohibited wastes. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

D. ☐ **Restricted Waste Decharacterized But Requires Treatment For UHC (40 CFR 268.7(b)(4)(iv))**

I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49 to remove the hazardous characteristic. This decharacterized waste contains Underlying Hazardous Constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

E. ☐ **Restricted Waste Subject To Treatment (40 CFR 268.7(a) (2))**

The restricted waste identified above must be treated to the applicable treatment standards in 40 CFR 268.40, or treated to comply with applicable prohibitions set forth in Part 268.32 or RCRA Section 3004(d) and 268.49 (c).

if applicable, under 268.49, this contaminated soil ☐ does or ☐ does notcontain listed hazardous waste and ☐ does or ☐ does not exhibit a characteristic of hazardous wastewater and is subject to the soil treatment standards as provided by 268.49(c) or the universal treatment standards.

F. ☐ **Hazardous Debris Subject To Treatment (40 CFR 268.45)**

This hazardous debris identified above must be treated to the alternative treatment standards in 40 CFR 268.45.

I certify and warrant that the information that appears on this form, and appended documents, is true and correct. I have correctly indicated how my waste is to be managed in accordance with 40 CFR 268. My certification is based on personal examination of the information submitted, or is based on my inquiries of those individuals responsible for obtaining the information.

Authorized Signature [signature] Title Environmental Scientist Date 9/6/22

UHC and Subcategory list from 40 CFR Part 268.48 and 268.40 available upon request

on behalf of The Kraus Companies

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites and Prevention Preparedness and Response Programs

Contaminated Media Transport and Treatment or Disposal Approval Form

DEC HAZARD/SPILL ID #	NAME OF CONTAMINATED SITE OR SPILL	
102.38.122/4033	Bentley Mall East Satellite	
CONTAMINATED SITE OR SPILL LOCATION – ADDRESS OR OTHER APPROPRIATE DESCRIPTION		
32 College Road, Fairbanks AK 99701		
CURRENT PHYSICAL LOCATION OF MEDIA	**SOURCE OF THE CONTAMINATION (DAY TANK, WASH BAY, FIRE TRAINING PIT, LUST, ETC.)**	
Bentley Mall East Satellite (behind Starbucks)	dry cleaner	
CONTAMINANTS OF CONCERN	**ESTIMATED VOLUME**	**DATE(S) GENERATED**
VOCs	68 gallons	8/17/22 - 8/18/22
POST TREATMENT ANALYSIS REQUIRED *(such as GRO, DRO, RRO, VOCs, metals, PFAS, and/or Chlorinated Solvents)*		
N/A		
COMMENTS OR OTHER IMPORTANT INFORMATION		
One 55-gallon drum and one 16-gallon drum with purge water generated from annual BMES monitoring well sampling.		

TREATMENT FACILITY, LANDFILL, AND/OR FINAL DESTINATION OF MEDIA	PHYSICAL ADDRESS/PHONE NUMBER
US Ecology Idaho	20400 Lemley Road, Grand View ID 83624/800-274-1516
RESPONSIBLE PARTY	**ADDRESS/PHONE NUMBER**
The Krausz Companies, LLC	3065 Jones Boulevard, Suite 100, Las Vegas NV 89146/726-228-7100
WASTE MANAGEMENT CO. / ORGANIZER	**ADDRESS/PHONE NUMBER**
US Ecology	619 East Ship Creek Avenue, Anchorage AK 99501/907-656-5050

***Note, disposal of polluted soil in a landfill requires prior approval from the landfill operator and ADEC Solid Waste Program.**

Dana Fjare
Name of the Person Requesting Approval (printed)

Environmental Scientist/Shannon & Wilson, Inc.
Title/Association

Signature

8/24/22
Date

907-987-7174
Phone Number

----------DEC USE ONLY----------

Based on the information provided, ADEC approves transport of the above mentioned material. The Responsible Party or their consultant must submit to the DEC Project Manager a copy of weight receipts of the loads transported and a post treatment analytical report, if disposed of at an approved treatment facility. The contaminated soil shall be transported as a covered load in compliance with 18 AAC 60.015.

James Fish
DEC Project Manager Name (printed)

Project Manager
Project Manager Title

James Fish Digitally signed by James Fish Date: 2022.08.24 16:35:00 -08'00'
Signature

8/24/2022
Date

907-451-2117
Phone Number

APPENDIX C: LABORATORY REPORTS

Appendix C

Laboratory Reports

CONTENTS

Laboratory Report of Analysis

To: Shannon & Wilson-Fairbanks
2355 Hill Road
Fairbanks, AK 99709
(907)479-0600

Report Number: **1225015**

Client Project: **107889 BMES**

Dear Dana Fjare,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Jennifer at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America Inc.

Stephen C. Ede 2022.09.27 10:21:00 -08'00'

Jennifer Dawkins Date
Project Manager
Jennifer.Dawkins@sgs.com

SGS North America Inc. 200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Case Narrative

SGS Client: **Shannon & Wilson-Fairbanks**
SGS Project: **1225015**
Project Name/Site: **107889 BMES**
Project Contact: **Dana Fjare**

Refer to sample receipt form for information on sample condition.

MW-3R (1225015005) PS

8260D - CCV recovery for bromomethane does not meet QC criteria (biased low).

MW-2R (1225015006) PS

8260D - CCV recovery for bromomethane does not meet QC criteria (biased low).

MW-12 (1225015007) PS

8260D - CCV recovery for bromomethane does not meet QC criteria (biased low).

MW-13 (1225015008) PS

8260D - CCV recovery for bromomethane does not meet QC criteria (biased low).

MW-4R (1225015009) PS

8260D - CCV recovery for bromomethane does not meet QC criteria (biased low).

MW-7 (1225015010) PS

8260D - CCV recovery for bromomethane does not meet QC criteria (biased low).

MW-101R (1225015011) PS

8260D - CCV recovery for bromomethane does not meet QC criteria (biased low).

MW-1R (1225015012) PS

8260D - CCV recovery for bromomethane does not meet QC criteria (biased low).

EB-1R (1225015013) PS

8260D - CCV recovery for bromomethane does not meet QC criteria (biased low).

MW-6 (1225015014) PS

8260D - CCV recovery for bromomethane does not meet QC criteria (biased low).

MW-105 (1225015015) PS

8260D - CCV recovery for bromomethane does not meet QC criteria (biased low).

MW-5 (1225015016) PS

8260D - CCV recovery for bromomethane does not meet QC criteria (biased low).

*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indenmification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

SGS North America Inc. 200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
MW-9	1225015001	08/17/2022	08/23/2022	Water (Surface, Eff., Ground)
MW-10	1225015002	08/17/2022	08/23/2022	Water (Surface, Eff., Ground)
MW-8	1225015003	08/17/2022	08/23/2022	Water (Surface, Eff., Ground)
MW-11	1225015004	08/17/2022	08/23/2022	Water (Surface, Eff., Ground)
MW-3R	1225015005	08/18/2022	08/23/2022	Water (Surface, Eff., Ground)
MW-2R	1225015006	08/18/2022	08/23/2022	Water (Surface, Eff., Ground)
MW-12	1225015007	08/18/2022	08/23/2022	Water (Surface, Eff., Ground)
MW-13	1225015008	08/18/2022	08/23/2022	Water (Surface, Eff., Ground)
MW-4R	1225015009	08/18/2022	08/23/2022	Water (Surface, Eff., Ground)
MW-7	1225015010	08/18/2022	08/23/2022	Water (Surface, Eff., Ground)
MW-101R	1225015011	08/18/2022	08/23/2022	Water (Surface, Eff., Ground)
MW-1R	1225015012	08/18/2022	08/23/2022	Water (Surface, Eff., Ground)
EB-1R	1225015013	08/18/2022	08/23/2022	Water (Surface, Eff., Ground)
MW-6	1225015014	08/19/2022	08/23/2022	Water (Surface, Eff., Ground)
MW-105	1225015015	08/19/2022	08/23/2022	Water (Surface, Eff., Ground)
MW-5	1225015016	08/19/2022	08/23/2022	Water (Surface, Eff., Ground)
Trip Blank	1225015017	08/17/2022	08/23/2022	Water (Surface, Eff., Ground)

Method	Method Description
SW8260D	Volatile Organic Compounds (W) FULL

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Detectable Results Summary

Client Sample ID: **MW-9**
Lab Sample ID: 1225015001
Volatile GC/MS

Parameter	Result	Units
cis-1,2-Dichloroethene	1.07	ug/L
Tetrachloroethene	8.21	ug/L
trans-1,2-Dichloroethene	3.69	ug/L
Trichloroethene	1.87	ug/L

Client Sample ID: **MW-10**
Lab Sample ID: 1225015002
Volatile GC/MS

Parameter	Result	Units
1,2-Dichloroethane	0.500	ug/L
Benzene	0.170J	ug/L
cis-1,2-Dichloroethene	3.07	ug/L
Tetrachloroethene	48.6	ug/L
Trichloroethene	8.73	ug/L

Client Sample ID: **MW-8**
Lab Sample ID: 1225015003
Volatile GC/MS

Parameter	Result	Units
Chloroform	0.400J	ug/L
cis-1,2-Dichloroethene	1.00	ug/L
Tetrachloroethene	2.81	ug/L
trans-1,2-Dichloroethene	2.65	ug/L
Trichloroethene	1.57	ug/L

Client Sample ID: **MW-11**
Lab Sample ID: 1225015004
Volatile GC/MS

Parameter	Result	Units
cis-1,2-Dichloroethene	1.51	ug/L
Tetrachloroethene	4.46	ug/L
trans-1,2-Dichloroethene	5.44	ug/L
Trichloroethene	1.98	ug/L
Trichlorofluoromethane	3.21	ug/L

Client Sample ID: **MW-3R**
Lab Sample ID: 1225015005
Volatile GC/MS

Parameter	Result	Units
1,2-Dichloroethane	0.530	ug/L
Benzene	0.830	ug/L
cis-1,2-Dichloroethene	0.610J	ug/L
Trichlorofluoromethane	1.78	ug/L

Client Sample ID: **MW-2R**
Lab Sample ID: 1225015006
Volatile GC/MS

Parameter	Result	Units
Benzene	0.350J	ug/L
Chloroform	8.93	ug/L
cis-1,2-Dichloroethene	1.46	ug/L
Tetrachloroethene	150	ug/L
Trichloroethene	1.26	ug/L
Trichlorofluoromethane	12.9	ug/L

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Detectable Results Summary

Client Sample ID: **MW-12**
Lab Sample ID: 1225015007
Volatile GC/MS

Parameter	Result	Units
cis-1,2-Dichloroethene	1.50	ug/L
Tetrachloroethene	129	ug/L
Trichloroethene	4.49	ug/L
Trichlorofluoromethane	1.78	ug/L

Client Sample ID: **MW-13**
Lab Sample ID: 1225015008
Volatile GC/MS

Parameter	Result	Units
Chloroform	2.00	ug/L
Tetrachloroethene	36.5	ug/L
Trichlorofluoromethane	2.84	ug/L

Client Sample ID: **MW-4R**
Lab Sample ID: 1225015009
Volatile GC/MS

Parameter	Result	Units
1,2-Dichloroethane	0.410J	ug/L
cis-1,2-Dichloroethene	0.530J	ug/L
Tetrachloroethene	34.0	ug/L
trans-1,2-Dichloroethene	1.17	ug/L
Trichloroethene	1.22	ug/L
Trichlorofluoromethane	3.46	ug/L

Client Sample ID: **MW-7**
Lab Sample ID: 1225015010
Volatile GC/MS

Parameter	Result	Units
cis-1,2-Dichloroethene	2.36	ug/L
Tetrachloroethene	4.75	ug/L
Trichloroethene	2.37	ug/L

Client Sample ID: **MW-101R**
Lab Sample ID: 1225015011
Volatile GC/MS

Parameter	Result	Units
Chloroform	4.50J	ug/L
Tetrachloroethene	1130	ug/L
Trichlorofluoromethane	29.3	ug/L

Client Sample ID: **MW-1R**
Lab Sample ID: 1225015012
Volatile GC/MS

Parameter	Result	Units
Chloroform	4.60J	ug/L
Tetrachloroethene	1150	ug/L
Trichlorofluoromethane	31.5	ug/L

Client Sample ID: **MW-6**
Lab Sample ID: 1225015014
Volatile GC/MS

Parameter	Result	Units
1,2-Dichloroethane	0.360J	ug/L
Chloroform	0.350J	ug/L
cis-1,2-Dichloroethene	1.54	ug/L
Tetrachloroethene	84.4	ug/L
Trichloroethene	7.91	ug/L
Trichlorofluoromethane	3.34	ug/L

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Detectable Results Summary

Client Sample ID: **MW-105**
Lab Sample ID: 1225015015
Volatile GC/MS

Parameter	Result	Units
1,2-Dichloroethane	0.420J	ug/L
cis-1,2-Dichloroethene	1.09	ug/L
Tetrachloroethene	59.9	ug/L
Trichloroethene	6.42	ug/L
Trichlorofluoromethane	4.98	ug/L

Client Sample ID: **MW-5**
Lab Sample ID: 1225015016
Volatile GC/MS

Parameter	Result	Units
cis-1,2-Dichloroethene	1.08	ug/L
Tetrachloroethene	56.4	ug/L
Trichloroethene	6.07	ug/L
Trichlorofluoromethane	4.92	ug/L

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Results of **MW-9**

Client Sample ID: **MW-9**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015001
Lab Project ID: 1225015

Collection Date: 08/17/22 10:16
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:06
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:06
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		08/25/22 19:06
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:06
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		08/25/22 19:06
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
1,2-Dichloroethane	0.250	U	0.500	0.200	ug/L	1		08/25/22 19:06
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:06
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:06
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:06
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:06
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:06
Benzene	0.200	U	0.400	0.120	ug/L	1		08/25/22 19:06
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:06
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
Bromomethane	3.00	U	6.00	3.00	ug/L	1		08/25/22 19:06
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:06
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:06
Chloroethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06

Results of **MW-9**

Client Sample ID: **MW-9**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015001
Lab Project ID: 1225015

Collection Date: 08/17/22 10:16
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
Chloromethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
cis-1,2-Dichloroethene	1.07		1.00	0.310	ug/L	1		08/25/22 19:06
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:06
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:06
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
Ethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
Freon-113	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:06
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
Methylene chloride	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:06
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:06
Naphthalene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
n-Propylbenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
o-Xylene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
P & M -Xylene	1.00	U	2.00	0.620	ug/L	1		08/25/22 19:06
sec-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
Styrene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
Tetrachloroethene	8.21		1.00	0.310	ug/L	1		08/25/22 19:06
Toluene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
trans-1,2-Dichloroethene	3.69		1.00	0.310	ug/L	1		08/25/22 19:06
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
Trichloroethene	1.87		1.00	0.310	ug/L	1		08/25/22 19:06
Trichlorofluoromethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:06
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:06
Vinyl chloride	0.0750	U	0.150	0.0500	ug/L	1		08/25/22 19:06
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		08/25/22 19:06
Surrogates								
1,2-Dichloroethane-D4 (surr)	108		81-118		%	1		08/25/22 19:06
4-Bromofluorobenzene (surr)	97		85-114		%	1		08/25/22 19:06
Toluene-d8 (surr)	103		89-112		%	1		08/25/22 19:06

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Results of **MW-9**

Client Sample ID: **MW-9**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015001
Lab Project ID: 1225015

Collection Date: 08/17/22 10:16
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS21906
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 08/25/22 19:06
Container ID: 1225015001-A

Prep Batch: VXX39067
Prep Method: SW5030B
Prep Date/Time: 08/25/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **MW-10**

Client Sample ID: **MW-10**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015002
Lab Project ID: 1225015

Collection Date: 08/17/22 11:20
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:21
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:21
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:21
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		08/25/22 19:21
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:21
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:21
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:21
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:21
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:21
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:21
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:21
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:21
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		08/25/22 19:21
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:21
1,2-Dichloroethane	0.500		0.500	0.200	ug/L	1		08/25/22 19:21
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:21
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:21
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:21
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:21
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:21
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:21
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:21
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:21
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:21
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:21
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:21
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:21
Benzene	0.170	J	0.400	0.120	ug/L	1		08/25/22 19:21
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:21
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:21
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:21
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:21
Bromomethane	3.00	U	6.00	3.00	ug/L	1		08/25/22 19:21
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:21
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:21
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:21
Chloroethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:21

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Results of **MW-10**

Client Sample ID: **MW-10**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015002
Lab Project ID: 1225015

Collection Date: 08/17/22 11:20
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:21
Chloromethane	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:21
cis-1,2-Dichloroethene	3.07		1.00	0.310	ug/L	1		08/25/22 19:21
cis-1,3-Dichloropropene	0.250 U		0.500	0.150	ug/L	1		08/25/22 19:21
Dibromochloromethane	0.250 U		0.500	0.150	ug/L	1		08/25/22 19:21
Dibromomethane	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:21
Dichlorodifluoromethane	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:21
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:21
Freon-113	5.00 U		10.0	3.10	ug/L	1		08/25/22 19:21
Hexachlorobutadiene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:21
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:21
Methylene chloride	5.00 U		10.0	3.10	ug/L	1		08/25/22 19:21
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		08/25/22 19:21
Naphthalene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:21
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:21
n-Propylbenzene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:21
o-Xylene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:21
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		08/25/22 19:21
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:21
Styrene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:21
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:21
Tetrachloroethene	48.6		1.00	0.310	ug/L	1		08/25/22 19:21
Toluene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:21
trans-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:21
trans-1,3-Dichloropropene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:21
Trichloroethene	8.73		1.00	0.310	ug/L	1		08/25/22 19:21
Trichlorofluoromethane	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:21
Vinyl acetate	5.00 U		10.0	3.10	ug/L	1		08/25/22 19:21
Vinyl chloride	0.0750 U		0.150	0.0500	ug/L	1		08/25/22 19:21
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		08/25/22 19:21
Surrogates								
1,2-Dichloroethane-D4 (surr)	107		81-118		%	1		08/25/22 19:21
4-Bromofluorobenzene (surr)	98.3		85-114		%	1		08/25/22 19:21
Toluene-d8 (surr)	104		89-112		%	1		08/25/22 19:21

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Results of **MW-10**

Client Sample ID: **MW-10**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015002
Lab Project ID: 1225015

Collection Date: 08/17/22 11:20
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS21906
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 08/25/22 19:21
Container ID: 1225015002-A

Prep Batch: VXX39067
Prep Method: SW5030B
Prep Date/Time: 08/25/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **MW-8**

Client Sample ID: **MW-8**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015003
Lab Project ID: 1225015

Collection Date: 08/17/22 15:15
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:36
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:36
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		08/25/22 19:36
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:36
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		08/25/22 19:36
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
1,2-Dichloroethane	0.250	U	0.500	0.200	ug/L	1		08/25/22 19:36
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:36
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:36
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:36
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:36
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:36
Benzene	0.200	U	0.400	0.120	ug/L	1		08/25/22 19:36
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:36
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
Bromomethane	3.00	U	6.00	3.00	ug/L	1		08/25/22 19:36
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:36
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:36
Chloroethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36

Results of **MW-8**

Client Sample ID: **MW-8**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015003
Lab Project ID: 1225015

Collection Date: 08/17/22 15:15
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.400	J	1.00	0.310	ug/L	1		08/25/22 19:36
Chloromethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
cis-1,2-Dichloroethene	1.00		1.00	0.310	ug/L	1		08/25/22 19:36
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:36
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:36
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
Ethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
Freon-113	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:36
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
Methylene chloride	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:36
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:36
Naphthalene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
n-Propylbenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
o-Xylene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
P & M -Xylene	1.00	U	2.00	0.620	ug/L	1		08/25/22 19:36
sec-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
Styrene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
Tetrachloroethene	2.81		1.00	0.310	ug/L	1		08/25/22 19:36
Toluene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
trans-1,2-Dichloroethene	2.65		1.00	0.310	ug/L	1		08/25/22 19:36
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
Trichloroethene	1.57		1.00	0.310	ug/L	1		08/25/22 19:36
Trichlorofluoromethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:36
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:36
Vinyl chloride	0.0750	U	0.150	0.0500	ug/L	1		08/25/22 19:36
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		08/25/22 19:36
Surrogates								
1,2-Dichloroethane-D4 (surr)	106		81-118		%	1		08/25/22 19:36
4-Bromofluorobenzene (surr)	98.6		85-114		%	1		08/25/22 19:36
Toluene-d8 (surr)	104		89-112		%	1		08/25/22 19:36

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J flagging is activated

Results of **MW-8**

Client Sample ID: **MW-8**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015003
Lab Project ID: 1225015

Collection Date: 08/17/22 15:15
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS21906
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 08/25/22 19:36
Container ID: 1225015003-A

Prep Batch: VXX39067
Prep Method: SW5030B
Prep Date/Time: 08/25/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **MW-11**

Client Sample ID: **MW-11**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015004
Lab Project ID: 1225015

Collection Date: 08/17/22 16:19
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:50
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:50
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:50
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		08/25/22 19:50
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:50
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:50
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:50
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:50
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:50
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:50
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:50
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:50
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		08/25/22 19:50
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:50
1,2-Dichloroethane	0.250	U	0.500	0.200	ug/L	1		08/25/22 19:50
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:50
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:50
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:50
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:50
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:50
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:50
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:50
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:50
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:50
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:50
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:50
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:50
Benzene	0.200	U	0.400	0.120	ug/L	1		08/25/22 19:50
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:50
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:50
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:50
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:50
Bromomethane	3.00	U	6.00	3.00	ug/L	1		08/25/22 19:50
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/25/22 19:50
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:50
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/25/22 19:50
Chloroethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 19:50

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Results of **MW-11**

Client Sample ID: **MW-11**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015004
Lab Project ID: 1225015

Collection Date: 08/17/22 16:19
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:50
Chloromethane	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:50
cis-1,2-Dichloroethene	1.51		1.00	0.310	ug/L	1		08/25/22 19:50
cis-1,3-Dichloropropene	0.250 U		0.500	0.150	ug/L	1		08/25/22 19:50
Dibromochloromethane	0.250 U		0.500	0.150	ug/L	1		08/25/22 19:50
Dibromomethane	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:50
Dichlorodifluoromethane	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:50
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:50
Freon-113	5.00 U		10.0	3.10	ug/L	1		08/25/22 19:50
Hexachlorobutadiene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:50
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:50
Methylene chloride	5.00 U		10.0	3.10	ug/L	1		08/25/22 19:50
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		08/25/22 19:50
Naphthalene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:50
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:50
n-Propylbenzene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:50
o-Xylene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:50
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		08/25/22 19:50
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:50
Styrene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:50
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:50
Tetrachloroethene	4.46		1.00	0.310	ug/L	1		08/25/22 19:50
Toluene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:50
trans-1,2-Dichloroethene	5.44		1.00	0.310	ug/L	1		08/25/22 19:50
trans-1,3-Dichloropropene	0.500 U		1.00	0.310	ug/L	1		08/25/22 19:50
Trichloroethene	1.98		1.00	0.310	ug/L	1		08/25/22 19:50
Trichlorofluoromethane	3.21		1.00	0.310	ug/L	1		08/25/22 19:50
Vinyl acetate	5.00 U		10.0	3.10	ug/L	1		08/25/22 19:50
Vinyl chloride	0.0750 U		0.150	0.0500	ug/L	1		08/25/22 19:50
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		08/25/22 19:50
Surrogates								
1,2-Dichloroethane-D4 (surr)	110		81-118		%	1		08/25/22 19:50
4-Bromofluorobenzene (surr)	97		85-114		%	1		08/25/22 19:50
Toluene-d8 (surr)	104		89-112		%	1		08/25/22 19:50

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Results of **MW-11**

Client Sample ID: **MW-11**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015004
Lab Project ID: 1225015

Collection Date: 08/17/22 16:19
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS21906
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 08/25/22 19:50
Container ID: 1225015004-A

Prep Batch: VXX39067
Prep Method: SW5030B
Prep Date/Time: 08/25/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **MW-3R**

Client Sample ID: **MW-3R**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015005
Lab Project ID: 1225015

Collection Date: 08/18/22 10:55
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:11
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:11
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		08/31/22 17:11
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:11
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		08/31/22 17:11
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
1,2-Dichloroethane	0.530		0.500	0.200	ug/L	1		08/31/22 17:11
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:11
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:11
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:11
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:11
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:11
Benzene	0.830		0.400	0.120	ug/L	1		08/31/22 17:11
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:11
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
Bromomethane	3.00	U	6.00	3.00	ug/L	1		08/31/22 17:11
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:11
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:11
Chloroethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11

Results of **MW-3R**

Client Sample ID: **MW-3R**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015005
Lab Project ID: 1225015

Collection Date: 08/18/22 10:55
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
Chloromethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
cis-1,2-Dichloroethene	0.610	J	1.00	0.310	ug/L	1		08/31/22 17:11
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:11
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:11
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
Ethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
Freon-113	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:11
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
Methylene chloride	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:11
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:11
Naphthalene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
n-Propylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
o-Xylene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
P & M -Xylene	1.00	U	2.00	0.620	ug/L	1		08/31/22 17:11
sec-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
Styrene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
Tetrachloroethene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
Toluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
Trichloroethene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:11
Trichlorofluoromethane	1.78		1.00	0.310	ug/L	1		08/31/22 17:11
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:11
Vinyl chloride	0.0750	U	0.150	0.0500	ug/L	1		08/31/22 17:11
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		08/31/22 17:11
Surrogates								
1,2-Dichloroethane-D4 (surr)	108		81-118		%	1		08/31/22 17:11
4-Bromofluorobenzene (surr)	94.4		85-114		%	1		08/31/22 17:11
Toluene-d8 (surr)	102		89-112		%	1		08/31/22 17:11

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J flagging is activated

Results of **MW-3R**

Client Sample ID: **MW-3R**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015005
Lab Project ID: 1225015

Collection Date: 08/18/22 10:55
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS21931
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 08/31/22 17:11
Container ID: 1225015005-A

Prep Batch: VXX39107
Prep Method: SW5030B
Prep Date/Time: 08/31/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **MW-2R**

Client Sample ID: **MW-2R**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015006
Lab Project ID: 1225015

Collection Date: 08/18/22 11:45
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:26
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:26
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:26
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		08/31/22 17:26
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:26
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:26
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:26
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:26
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:26
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:26
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:26
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:26
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		08/31/22 17:26
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:26
1,2-Dichloroethane	0.250	U	0.500	0.200	ug/L	1		08/31/22 17:26
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:26
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:26
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:26
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:26
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:26
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:26
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:26
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:26
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:26
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:26
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:26
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:26
Benzene	0.350	J	0.400	0.120	ug/L	1		08/31/22 17:26
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:26
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:26
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:26
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:26
Bromomethane	3.00	U	6.00	3.00	ug/L	1		08/31/22 17:26
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:26
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:26
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:26
Chloroethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:26

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Results of **MW-2R**

Client Sample ID: **MW-2R**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015006
Lab Project ID: 1225015

Collection Date: 08/18/22 11:45
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	8.93		1.00	0.310	ug/L	1		08/31/22 17:26
Chloromethane	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:26
cis-1,2-Dichloroethene	1.46		1.00	0.310	ug/L	1		08/31/22 17:26
cis-1,3-Dichloropropene	0.250 U		0.500	0.150	ug/L	1		08/31/22 17:26
Dibromochloromethane	0.250 U		0.500	0.150	ug/L	1		08/31/22 17:26
Dibromomethane	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:26
Dichlorodifluoromethane	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:26
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:26
Freon-113	5.00 U		10.0	3.10	ug/L	1		08/31/22 17:26
Hexachlorobutadiene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:26
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:26
Methylene chloride	5.00 U		10.0	3.10	ug/L	1		08/31/22 17:26
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		08/31/22 17:26
Naphthalene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:26
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:26
n-Propylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:26
o-Xylene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:26
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		08/31/22 17:26
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:26
Styrene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:26
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:26
Tetrachloroethene	150		1.00	0.310	ug/L	1		08/31/22 17:26
Toluene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:26
trans-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:26
trans-1,3-Dichloropropene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:26
Trichloroethene	1.26		1.00	0.310	ug/L	1		08/31/22 17:26
Trichlorofluoromethane	12.9		1.00	0.310	ug/L	1		08/31/22 17:26
Vinyl acetate	5.00 U		10.0	3.10	ug/L	1		08/31/22 17:26
Vinyl chloride	0.0750 U		0.150	0.0500	ug/L	1		08/31/22 17:26
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		08/31/22 17:26
Surrogates								
1,2-Dichloroethane-D4 (surr)	104		81-118		%	1		08/31/22 17:26
4-Bromofluorobenzene (surr)	94.7		85-114		%	1		08/31/22 17:26
Toluene-d8 (surr)	105		89-112		%	1		08/31/22 17:26

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Results of **MW-2R**

Client Sample ID: **MW-2R**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015006
Lab Project ID: 1225015

Collection Date: 08/18/22 11:45
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS21931
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 08/31/22 17:26
Container ID: 1225015006-A

Prep Batch: VXX39107
Prep Method: SW5030B
Prep Date/Time: 08/31/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **MW-12**

Client Sample ID: **MW-12**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015007
Lab Project ID: 1225015

Collection Date: 08/18/22 13:23
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:41
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:41
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:41
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		08/31/22 17:41
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:41
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:41
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:41
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:41
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:41
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:41
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:41
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:41
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		08/31/22 17:41
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:41
1,2-Dichloroethane	0.250	U	0.500	0.200	ug/L	1		08/31/22 17:41
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:41
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:41
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:41
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:41
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:41
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:41
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:41
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:41
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:41
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:41
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:41
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:41
Benzene	0.200	U	0.400	0.120	ug/L	1		08/31/22 17:41
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:41
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:41
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:41
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:41
Bromomethane	3.00	U	6.00	3.00	ug/L	1		08/31/22 17:41
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:41
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:41
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:41
Chloroethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:41

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Results of **MW-12**

Client Sample ID: **MW-12**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015007
Lab Project ID: 1225015

Collection Date: 08/18/22 13:23
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:41
Chloromethane	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:41
cis-1,2-Dichloroethene	1.50		1.00	0.310	ug/L	1		08/31/22 17:41
cis-1,3-Dichloropropene	0.250 U		0.500	0.150	ug/L	1		08/31/22 17:41
Dibromochloromethane	0.250 U		0.500	0.150	ug/L	1		08/31/22 17:41
Dibromomethane	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:41
Dichlorodifluoromethane	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:41
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:41
Freon-113	5.00 U		10.0	3.10	ug/L	1		08/31/22 17:41
Hexachlorobutadiene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:41
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:41
Methylene chloride	5.00 U		10.0	3.10	ug/L	1		08/31/22 17:41
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		08/31/22 17:41
Naphthalene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:41
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:41
n-Propylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:41
o-Xylene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:41
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		08/31/22 17:41
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:41
Styrene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:41
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:41
Tetrachloroethene	129		1.00	0.310	ug/L	1		08/31/22 17:41
Toluene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:41
trans-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:41
trans-1,3-Dichloropropene	0.500 U		1.00	0.310	ug/L	1		08/31/22 17:41
Trichloroethene	4.49		1.00	0.310	ug/L	1		08/31/22 17:41
Trichlorofluoromethane	1.78		1.00	0.310	ug/L	1		08/31/22 17:41
Vinyl acetate	5.00 U		10.0	3.10	ug/L	1		08/31/22 17:41
Vinyl chloride	0.0750 U		0.150	0.0500	ug/L	1		08/31/22 17:41
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		08/31/22 17:41
Surrogates								
1,2-Dichloroethane-D4 (surr)	106		81-118		%	1		08/31/22 17:41
4-Bromofluorobenzene (surr)	95.2		85-114		%	1		08/31/22 17:41
Toluene-d8 (surr)	105		89-112		%	1		08/31/22 17:41

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Results of **MW-12**

Client Sample ID: **MW-12**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015007
Lab Project ID: 1225015

Collection Date: 08/18/22 13:23
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS21931
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 08/31/22 17:41
Container ID: 1225015007-A

Prep Batch: VXX39107
Prep Method: SW5030B
Prep Date/Time: 08/31/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **MW-13**

Client Sample ID: **MW-13**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015008
Lab Project ID: 1225015

Collection Date: 08/18/22 14:55
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:56
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:56
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		08/31/22 17:56
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:56
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		08/31/22 17:56
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
1,2-Dichloroethane	0.250	U	0.500	0.200	ug/L	1		08/31/22 17:56
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:56
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:56
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:56
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:56
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:56
Benzene	0.200	U	0.400	0.120	ug/L	1		08/31/22 17:56
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:56
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
Bromomethane	3.00	U	6.00	3.00	ug/L	1		08/31/22 17:56
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:56
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:56
Chloroethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56

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J flagging is activated

Results of **MW-13**

Client Sample ID: **MW-13**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015008
Lab Project ID: 1225015

Collection Date: 08/18/22 14:55
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	2.00		1.00	0.310	ug/L	1		08/31/22 17:56
Chloromethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:56
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 17:56
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
Ethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
Freon-113	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:56
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
Methylene chloride	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:56
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:56
Naphthalene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
n-Propylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
o-Xylene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
P & M -Xylene	1.00	U	2.00	0.620	ug/L	1		08/31/22 17:56
sec-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
Styrene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
Tetrachloroethene	36.5		1.00	0.310	ug/L	1		08/31/22 17:56
Toluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
Trichloroethene	0.500	U	1.00	0.310	ug/L	1		08/31/22 17:56
Trichlorofluoromethane	2.84		1.00	0.310	ug/L	1		08/31/22 17:56
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		08/31/22 17:56
Vinyl chloride	0.0750	U	0.150	0.0500	ug/L	1		08/31/22 17:56
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		08/31/22 17:56
Surrogates								
1,2-Dichloroethane-D4 (surr)	105		81-118		%	1		08/31/22 17:56
4-Bromofluorobenzene (surr)	94.5		85-114		%	1		08/31/22 17:56
Toluene-d8 (surr)	102		89-112		%	1		08/31/22 17:56

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J flagging is activated

Results of **MW-13**

Client Sample ID: **MW-13**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015008
Lab Project ID: 1225015

Collection Date: 08/18/22 14:55
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS21931
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 08/31/22 17:56
Container ID: 1225015008-A

Prep Batch: VXX39107
Prep Method: SW5030B
Prep Date/Time: 08/31/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Results of **MW-4R**

Client Sample ID: **MW-4R**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015009
Lab Project ID: 1225015

Collection Date: 08/18/22 17:20
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 18:10
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:10
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 18:10
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		08/31/22 18:10
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:10
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:10
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:10
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:10
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:10
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:10
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:10
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/31/22 18:10
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		08/31/22 18:10
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:10
1,2-Dichloroethane	0.410	J	0.500	0.200	ug/L	1		08/31/22 18:10
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:10
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:10
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:10
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/31/22 18:10
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/31/22 18:10
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:10
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		08/31/22 18:10
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:10
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		08/31/22 18:10
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:10
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:10
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		08/31/22 18:10
Benzene	0.200	U	0.400	0.120	ug/L	1		08/31/22 18:10
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:10
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:10
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 18:10
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:10
Bromomethane	3.00	U	6.00	3.00	ug/L	1		08/31/22 18:10
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/31/22 18:10
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:10
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/31/22 18:10
Chloroethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:10

Print Date: 09/27/2022 10:05:24AM

J flagging is activated

Results of **MW-4R**

Client Sample ID: **MW-4R**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015009
Lab Project ID: 1225015

Collection Date: 08/18/22 17:20
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:10
Chloromethane	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:10
cis-1,2-Dichloroethene	0.530 J		1.00	0.310	ug/L	1		08/31/22 18:10
cis-1,3-Dichloropropene	0.250 U		0.500	0.150	ug/L	1		08/31/22 18:10
Dibromochloromethane	0.250 U		0.500	0.150	ug/L	1		08/31/22 18:10
Dibromomethane	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:10
Dichlorodifluoromethane	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:10
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:10
Freon-113	5.00 U		10.0	3.10	ug/L	1		08/31/22 18:10
Hexachlorobutadiene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:10
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:10
Methylene chloride	5.00 U		10.0	3.10	ug/L	1		08/31/22 18:10
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		08/31/22 18:10
Naphthalene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:10
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:10
n-Propylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:10
o-Xylene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:10
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		08/31/22 18:10
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:10
Styrene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:10
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:10
Tetrachloroethene	34.0		1.00	0.310	ug/L	1		08/31/22 18:10
Toluene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:10
trans-1,2-Dichloroethene	1.17		1.00	0.310	ug/L	1		08/31/22 18:10
trans-1,3-Dichloropropene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:10
Trichloroethene	1.22		1.00	0.310	ug/L	1		08/31/22 18:10
Trichlorofluoromethane	3.46		1.00	0.310	ug/L	1		08/31/22 18:10
Vinyl acetate	5.00 U		10.0	3.10	ug/L	1		08/31/22 18:10
Vinyl chloride	0.0750 U		0.150	0.0500	ug/L	1		08/31/22 18:10
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		08/31/22 18:10
Surrogates								
1,2-Dichloroethane-D4 (surr)	106		81-118		%	1		08/31/22 18:10
4-Bromofluorobenzene (surr)	94.5		85-114		%	1		08/31/22 18:10
Toluene-d8 (surr)	103		89-112		%	1		08/31/22 18:10

Results of **MW-4R**

Client Sample ID: **MW-4R**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015009
Lab Project ID: 1225015

Collection Date: 08/18/22 17:20
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS21931
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 08/31/22 18:10
Container ID: 1225015009-A

Prep Batch: VXX39107
Prep Method: SW5030B
Prep Date/Time: 08/31/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **MW-7**

Client Sample ID: **MW-7**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015010
Lab Project ID: 1225015

Collection Date: 08/18/22 19:05
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 18:25
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:25
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 18:25
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		08/31/22 18:25
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:25
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:25
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:25
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:25
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:25
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:25
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:25
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/31/22 18:25
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		08/31/22 18:25
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:25
1,2-Dichloroethane	0.250	U	0.500	0.200	ug/L	1		08/31/22 18:25
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:25
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:25
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:25
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/31/22 18:25
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/31/22 18:25
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:25
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		08/31/22 18:25
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:25
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		08/31/22 18:25
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:25
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:25
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		08/31/22 18:25
Benzene	0.200	U	0.400	0.120	ug/L	1		08/31/22 18:25
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:25
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:25
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 18:25
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:25
Bromomethane	3.00	U	6.00	3.00	ug/L	1		08/31/22 18:25
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/31/22 18:25
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:25
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/31/22 18:25
Chloroethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:25

Results of **MW-7**

Client Sample ID: **MW-7**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015010
Lab Project ID: 1225015

Collection Date: 08/18/22 19:05
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:25
Chloromethane	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:25
cis-1,2-Dichloroethene	2.36		1.00	0.310	ug/L	1		08/31/22 18:25
cis-1,3-Dichloropropene	0.250 U		0.500	0.150	ug/L	1		08/31/22 18:25
Dibromochloromethane	0.250 U		0.500	0.150	ug/L	1		08/31/22 18:25
Dibromomethane	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:25
Dichlorodifluoromethane	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:25
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:25
Freon-113	5.00 U		10.0	3.10	ug/L	1		08/31/22 18:25
Hexachlorobutadiene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:25
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:25
Methylene chloride	5.00 U		10.0	3.10	ug/L	1		08/31/22 18:25
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		08/31/22 18:25
Naphthalene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:25
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:25
n-Propylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:25
o-Xylene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:25
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		08/31/22 18:25
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:25
Styrene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:25
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:25
Tetrachloroethene	4.75		1.00	0.310	ug/L	1		08/31/22 18:25
Toluene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:25
trans-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:25
trans-1,3-Dichloropropene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:25
Trichloroethene	2.37		1.00	0.310	ug/L	1		08/31/22 18:25
Trichlorofluoromethane	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:25
Vinyl acetate	5.00 U		10.0	3.10	ug/L	1		08/31/22 18:25
Vinyl chloride	0.0750 U		0.150	0.0500	ug/L	1		08/31/22 18:25
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		08/31/22 18:25
Surrogates								
1,2-Dichloroethane-D4 (surr)	105		81-118		%	1		08/31/22 18:25
4-Bromofluorobenzene (surr)	94.9		85-114		%	1		08/31/22 18:25
Toluene-d8 (surr)	103		89-112		%	1		08/31/22 18:25

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J flagging is activated

Results of **MW-7**

Client Sample ID: **MW-7**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015010
Lab Project ID: 1225015

Collection Date: 08/18/22 19:05
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS21931
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 08/31/22 18:25
Container ID: 1225015010-A

Prep Batch: VXX39107
Prep Method: SW5030B
Prep Date/Time: 08/31/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **MW-101R**

Client Sample ID: **MW-101R**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015011
Lab Project ID: 1225015

Collection Date: 08/18/22 21:00
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	2.50	U	5.00	1.50	ug/L	10		08/31/22 20:23
1,1,1-Trichloroethane	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
1,1,2,2-Tetrachloroethane	2.50	U	5.00	1.50	ug/L	10		08/31/22 20:23
1,1,2-Trichloroethane	2.00	U	4.00	1.20	ug/L	10		08/31/22 20:23
1,1-Dichloroethane	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
1,1-Dichloroethene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
1,1-Dichloropropene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
1,2,3-Trichlorobenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
1,2,3-Trichloropropane	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
1,2,4-Trichlorobenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
1,2,4-Trimethylbenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
1,2-Dibromo-3-chloropropane	50.0	U	100	31.0	ug/L	10		08/31/22 20:23
1,2-Dibromoethane	0.375	U	0.750	0.180	ug/L	10		08/31/22 20:23
1,2-Dichlorobenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
1,2-Dichloroethane	2.50	U	5.00	2.00	ug/L	10		08/31/22 20:23
1,2-Dichloropropane	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
1,3,5-Trimethylbenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
1,3-Dichlorobenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
1,3-Dichloropropane	2.50	U	5.00	1.50	ug/L	10		08/31/22 20:23
1,4-Dichlorobenzene	2.50	U	5.00	1.50	ug/L	10		08/31/22 20:23
2,2-Dichloropropane	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
2-Butanone (MEK)	50.0	U	100	31.0	ug/L	10		08/31/22 20:23
2-Chlorotoluene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
2-Hexanone	50.0	U	100	31.0	ug/L	10		08/31/22 20:23
4-Chlorotoluene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
4-Isopropyltoluene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
4-Methyl-2-pentanone (MIBK)	50.0	U	100	31.0	ug/L	10		08/31/22 20:23
Benzene	2.00	U	4.00	1.20	ug/L	10		08/31/22 20:23
Bromobenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
Bromochloromethane	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
Bromodichloromethane	2.50	U	5.00	1.50	ug/L	10		08/31/22 20:23
Bromoform	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
Bromomethane	30.0	U	60.0	30.0	ug/L	10		08/31/22 20:23
Carbon disulfide	50.0	U	100	31.0	ug/L	10		08/31/22 20:23
Carbon tetrachloride	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
Chlorobenzene	2.50	U	5.00	1.50	ug/L	10		08/31/22 20:23
Chloroethane	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23

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Results of **MW-101R**

Client Sample ID: **MW-101R**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015011
Lab Project ID: 1225015

Collection Date: 08/18/22 21:00
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	4.50	J	10.0	3.10	ug/L	10		08/31/22 20:23
Chloromethane	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
cis-1,2-Dichloroethene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
cis-1,3-Dichloropropene	2.50	U	5.00	1.50	ug/L	10		08/31/22 20:23
Dibromochloromethane	2.50	U	5.00	1.50	ug/L	10		08/31/22 20:23
Dibromomethane	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
Dichlorodifluoromethane	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
Ethylbenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
Freon-113	50.0	U	100	31.0	ug/L	10		08/31/22 20:23
Hexachlorobutadiene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
Isopropylbenzene (Cumene)	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
Methylene chloride	50.0	U	100	31.0	ug/L	10		08/31/22 20:23
Methyl-t-butyl ether	50.0	U	100	31.0	ug/L	10		08/31/22 20:23
Naphthalene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
n-Butylbenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
n-Propylbenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
o-Xylene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
P & M -Xylene	10.0	U	20.0	6.20	ug/L	10		08/31/22 20:23
sec-Butylbenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
Styrene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
tert-Butylbenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
Tetrachloroethene	1130		10.0	3.10	ug/L	10		08/31/22 20:23
Toluene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
trans-1,2-Dichloroethene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
trans-1,3-Dichloropropene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
Trichloroethene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:23
Trichlorofluoromethane	29.3		10.0	3.10	ug/L	10		08/31/22 20:23
Vinyl acetate	50.0	U	100	31.0	ug/L	10		08/31/22 20:23
Vinyl chloride	0.750	U	1.50	0.500	ug/L	10		08/31/22 20:23
Xylenes (total)	15.0	U	30.0	10.0	ug/L	10		08/31/22 20:23
Surrogates								
1,2-Dichloroethane-D4 (surr)	103		81-118		%	10		08/31/22 20:23
4-Bromofluorobenzene (surr)	94.7		85-114		%	10		08/31/22 20:23
Toluene-d8 (surr)	104		89-112		%	10		08/31/22 20:23

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Results of **MW-101R**

Client Sample ID: **MW-101R**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015011
Lab Project ID: 1225015

Collection Date: 08/18/22 21:00
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS21931
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 08/31/22 20:23
Container ID: 1225015011-A

Prep Batch: VXX39107
Prep Method: SW5030B
Prep Date/Time: 08/31/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **MW-1R**

Client Sample ID: **MW-1R**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015012
Lab Project ID: 1225015

Collection Date: 08/18/22 21:10
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	2.50	U	5.00	1.50	ug/L	10		08/31/22 20:38
1,1,1-Trichloroethane	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
1,1,2,2-Tetrachloroethane	2.50	U	5.00	1.50	ug/L	10		08/31/22 20:38
1,1,2-Trichloroethane	2.00	U	4.00	1.20	ug/L	10		08/31/22 20:38
1,1-Dichloroethane	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
1,1-Dichloroethene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
1,1-Dichloropropene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
1,2,3-Trichlorobenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
1,2,3-Trichloropropane	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
1,2,4-Trichlorobenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
1,2,4-Trimethylbenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
1,2-Dibromo-3-chloropropane	50.0	U	100	31.0	ug/L	10		08/31/22 20:38
1,2-Dibromoethane	0.375	U	0.750	0.180	ug/L	10		08/31/22 20:38
1,2-Dichlorobenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
1,2-Dichloroethane	2.50	U	5.00	2.00	ug/L	10		08/31/22 20:38
1,2-Dichloropropane	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
1,3,5-Trimethylbenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
1,3-Dichlorobenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
1,3-Dichloropropane	2.50	U	5.00	1.50	ug/L	10		08/31/22 20:38
1,4-Dichlorobenzene	2.50	U	5.00	1.50	ug/L	10		08/31/22 20:38
2,2-Dichloropropane	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
2-Butanone (MEK)	50.0	U	100	31.0	ug/L	10		08/31/22 20:38
2-Chlorotoluene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
2-Hexanone	50.0	U	100	31.0	ug/L	10		08/31/22 20:38
4-Chlorotoluene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
4-Isopropyltoluene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
4-Methyl-2-pentanone (MIBK)	50.0	U	100	31.0	ug/L	10		08/31/22 20:38
Benzene	2.00	U	4.00	1.20	ug/L	10		08/31/22 20:38
Bromobenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
Bromochloromethane	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
Bromodichloromethane	2.50	U	5.00	1.50	ug/L	10		08/31/22 20:38
Bromoform	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
Bromomethane	30.0	U	60.0	30.0	ug/L	10		08/31/22 20:38
Carbon disulfide	50.0	U	100	31.0	ug/L	10		08/31/22 20:38
Carbon tetrachloride	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
Chlorobenzene	2.50	U	5.00	1.50	ug/L	10		08/31/22 20:38
Chloroethane	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38

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J flagging is activated

Results of **MW-1R**

Client Sample ID: **MW-1R**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015012
Lab Project ID: 1225015

Collection Date: 08/18/22 21:10
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	4.60	J	10.0	3.10	ug/L	10		08/31/22 20:38
Chloromethane	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
cis-1,2-Dichloroethene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
cis-1,3-Dichloropropene	2.50	U	5.00	1.50	ug/L	10		08/31/22 20:38
Dibromochloromethane	2.50	U	5.00	1.50	ug/L	10		08/31/22 20:38
Dibromomethane	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
Dichlorodifluoromethane	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
Ethylbenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
Freon-113	50.0	U	100	31.0	ug/L	10		08/31/22 20:38
Hexachlorobutadiene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
Isopropylbenzene (Cumene)	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
Methylene chloride	50.0	U	100	31.0	ug/L	10		08/31/22 20:38
Methyl-t-butyl ether	50.0	U	100	31.0	ug/L	10		08/31/22 20:38
Naphthalene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
n-Butylbenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
n-Propylbenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
o-Xylene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
P & M -Xylene	10.0	U	20.0	6.20	ug/L	10		08/31/22 20:38
sec-Butylbenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
Styrene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
tert-Butylbenzene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
Tetrachloroethene	1150		10.0	3.10	ug/L	10		08/31/22 20:38
Toluene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
trans-1,2-Dichloroethene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
trans-1,3-Dichloropropene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
Trichloroethene	5.00	U	10.0	3.10	ug/L	10		08/31/22 20:38
Trichlorofluoromethane	31.5		10.0	3.10	ug/L	10		08/31/22 20:38
Vinyl acetate	50.0	U	100	31.0	ug/L	10		08/31/22 20:38
Vinyl chloride	0.750	U	1.50	0.500	ug/L	10		08/31/22 20:38
Xylenes (total)	15.0	U	30.0	10.0	ug/L	10		08/31/22 20:38
Surrogates								
1,2-Dichloroethane-D4 (surr)	102		81-118		%	10		08/31/22 20:38
4-Bromofluorobenzene (surr)	94.6		85-114		%	10		08/31/22 20:38
Toluene-d8 (surr)	104		89-112		%	10		08/31/22 20:38

Print Date: 09/27/2022 10:05:24AM

J flagging is activated

Results of **MW-1R**

Client Sample ID: **MW-1R**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015012
Lab Project ID: 1225015

Collection Date: 08/18/22 21:10
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS21931
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 08/31/22 20:38
Container ID: 1225015012-A

Prep Batch: VXX39107
Prep Method: SW5030B
Prep Date/Time: 08/31/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **EB-1R**

Client Sample ID: **EB-1R**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015013
Lab Project ID: 1225015

Collection Date: 08/18/22 21:25
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 18:40
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:40
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 18:40
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		08/31/22 18:40
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:40
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:40
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:40
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:40
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:40
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:40
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:40
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/31/22 18:40
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		08/31/22 18:40
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:40
1,2-Dichloroethane	0.250	U	0.500	0.200	ug/L	1		08/31/22 18:40
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:40
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:40
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:40
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/31/22 18:40
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/31/22 18:40
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:40
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		08/31/22 18:40
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:40
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		08/31/22 18:40
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:40
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:40
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		08/31/22 18:40
Benzene	0.200	U	0.400	0.120	ug/L	1		08/31/22 18:40
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:40
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:40
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/31/22 18:40
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:40
Bromomethane	3.00	U	6.00	3.00	ug/L	1		08/31/22 18:40
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/31/22 18:40
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:40
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/31/22 18:40
Chloroethane	0.500	U	1.00	0.310	ug/L	1		08/31/22 18:40

Print Date: 09/27/2022 10:05:24AM

J flagging is activated

Results of **EB-1R**

Client Sample ID: **EB-1R**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015013
Lab Project ID: 1225015

Collection Date: 08/18/22 21:25
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:40
Chloromethane	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:40
cis-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:40
cis-1,3-Dichloropropene	0.250 U		0.500	0.150	ug/L	1		08/31/22 18:40
Dibromochloromethane	0.250 U		0.500	0.150	ug/L	1		08/31/22 18:40
Dibromomethane	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:40
Dichlorodifluoromethane	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:40
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:40
Freon-113	5.00 U		10.0	3.10	ug/L	1		08/31/22 18:40
Hexachlorobutadiene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:40
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:40
Methylene chloride	5.00 U		10.0	3.10	ug/L	1		08/31/22 18:40
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		08/31/22 18:40
Naphthalene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:40
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:40
n-Propylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:40
o-Xylene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:40
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		08/31/22 18:40
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:40
Styrene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:40
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:40
Tetrachloroethene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:40
Toluene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:40
trans-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:40
trans-1,3-Dichloropropene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:40
Trichloroethene	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:40
Trichlorofluoromethane	0.500 U		1.00	0.310	ug/L	1		08/31/22 18:40
Vinyl acetate	5.00 U		10.0	3.10	ug/L	1		08/31/22 18:40
Vinyl chloride	0.0750 U		0.150	0.0500	ug/L	1		08/31/22 18:40
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		08/31/22 18:40
Surrogates								
1,2-Dichloroethane-D4 (surr)	102		81-118		%	1		08/31/22 18:40
4-Bromofluorobenzene (surr)	95.7		85-114		%	1		08/31/22 18:40
Toluene-d8 (surr)	103		89-112		%	1		08/31/22 18:40

Print Date: 09/27/2022 10:05:24AM

J flagging is activated

Results of **EB-1R**

Client Sample ID: **EB-1R**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015013
Lab Project ID: 1225015

Collection Date: 08/18/22 21:25
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS21931
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 08/31/22 18:40
Container ID: 1225015013-A

Prep Batch: VXX39107
Prep Method: SW5030B
Prep Date/Time: 08/31/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **MW-6**

Client Sample ID: **MW-6**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015014
Lab Project ID: 1225015

Collection Date: 08/19/22 12:35
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/01/22 00:20
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/01/22 00:20
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		09/01/22 00:20
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:20
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		09/01/22 00:20
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
1,2-Dichloroethane	0.360	J	0.500	0.200	ug/L	1		09/01/22 00:20
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		09/01/22 00:20
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/01/22 00:20
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:20
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:20
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:20
Benzene	0.200	U	0.400	0.120	ug/L	1		09/01/22 00:20
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		09/01/22 00:20
Bromoform	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
Bromomethane	3.00	U	6.00	3.00	ug/L	1		09/01/22 00:20
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:20
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/01/22 00:20
Chloroethane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20

Results of **MW-6**

Client Sample ID: **MW-6**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015014
Lab Project ID: 1225015

Collection Date: 08/19/22 12:35
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.350	J	1.00	0.310	ug/L	1		09/01/22 00:20
Chloromethane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
cis-1,2-Dichloroethene	1.54		1.00	0.310	ug/L	1		09/01/22 00:20
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		09/01/22 00:20
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		09/01/22 00:20
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
Ethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
Freon-113	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:20
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
Methylene chloride	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:20
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:20
Naphthalene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
n-Propylbenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
o-Xylene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
P & M -Xylene	1.00	U	2.00	0.620	ug/L	1		09/01/22 00:20
sec-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
Styrene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
Tetrachloroethene	84.4		1.00	0.310	ug/L	1		09/01/22 00:20
Toluene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:20
Trichloroethene	7.91		1.00	0.310	ug/L	1		09/01/22 00:20
Trichlorofluoromethane	3.34		1.00	0.310	ug/L	1		09/01/22 00:20
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:20
Vinyl chloride	0.0750	U	0.150	0.0500	ug/L	1		09/01/22 00:20
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		09/01/22 00:20
Surrogates								
1,2-Dichloroethane-D4 (surr)	105		81-118		%	1		09/01/22 00:20
4-Bromofluorobenzene (surr)	95.1		85-114		%	1		09/01/22 00:20
Toluene-d8 (surr)	103		89-112		%	1		09/01/22 00:20

Results of **MW-6**

Client Sample ID: **MW-6**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015014
Lab Project ID: 1225015

Collection Date: 08/19/22 12:35
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS21932
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/01/22 00:20
Container ID: 1225015014-A

Prep Batch: VXX39111
Prep Method: SW5030B
Prep Date/Time: 08/31/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **MW-105**

Client Sample ID: **MW-105**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015015
Lab Project ID: 1225015

Collection Date: 08/19/22 13:22
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/01/22 00:35
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/01/22 00:35
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		09/01/22 00:35
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:35
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		09/01/22 00:35
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
1,2-Dichloroethane	0.420	J	0.500	0.200	ug/L	1		09/01/22 00:35
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		09/01/22 00:35
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/01/22 00:35
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:35
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:35
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:35
Benzene	0.200	U	0.400	0.120	ug/L	1		09/01/22 00:35
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		09/01/22 00:35
Bromoform	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
Bromomethane	3.00	U	6.00	3.00	ug/L	1		09/01/22 00:35
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:35
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/01/22 00:35
Chloroethane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35

Results of **MW-105**

Client Sample ID: **MW-105**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015015
Lab Project ID: 1225015

Collection Date: 08/19/22 13:22
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
Chloromethane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
cis-1,2-Dichloroethene	1.09		1.00	0.310	ug/L	1		09/01/22 00:35
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		09/01/22 00:35
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		09/01/22 00:35
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
Ethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
Freon-113	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:35
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
Methylene chloride	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:35
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:35
Naphthalene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
n-Propylbenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
o-Xylene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
P & M -Xylene	1.00	U	2.00	0.620	ug/L	1		09/01/22 00:35
sec-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
Styrene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
Tetrachloroethene	59.9		1.00	0.310	ug/L	1		09/01/22 00:35
Toluene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:35
Trichloroethene	6.42		1.00	0.310	ug/L	1		09/01/22 00:35
Trichlorofluoromethane	4.98		1.00	0.310	ug/L	1		09/01/22 00:35
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:35
Vinyl chloride	0.0750	U	0.150	0.0500	ug/L	1		09/01/22 00:35
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		09/01/22 00:35
Surrogates								
1,2-Dichloroethane-D4 (surr)	104		81-118		%	1		09/01/22 00:35
4-Bromofluorobenzene (surr)	95.3		85-114		%	1		09/01/22 00:35
Toluene-d8 (surr)	104		89-112		%	1		09/01/22 00:35

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Results of **MW-105**

Client Sample ID: **MW-105**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015015
Lab Project ID: 1225015

Collection Date: 08/19/22 13:22
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS21932
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/01/22 00:35
Container ID: 1225015015-A

Prep Batch: VXX39111
Prep Method: SW5030B
Prep Date/Time: 08/31/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **MW-5**

Client Sample ID: **MW-5**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015016
Lab Project ID: 1225015

Collection Date: 08/19/22 13:32
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/01/22 00:49
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:49
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		09/01/22 00:49
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		09/01/22 00:49
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:49
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:49
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:49
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:49
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:49
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:49
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:49
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:49
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		09/01/22 00:49
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:49
1,2-Dichloroethane	0.250	U	0.500	0.200	ug/L	1		09/01/22 00:49
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:49
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:49
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:49
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		09/01/22 00:49
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/01/22 00:49
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:49
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:49
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:49
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:49
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:49
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:49
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:49
Benzene	0.200	U	0.400	0.120	ug/L	1		09/01/22 00:49
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:49
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:49
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		09/01/22 00:49
Bromoform	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:49
Bromomethane	3.00	U	6.00	3.00	ug/L	1		09/01/22 00:49
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		09/01/22 00:49
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:49
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		09/01/22 00:49
Chloroethane	0.500	U	1.00	0.310	ug/L	1		09/01/22 00:49

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Results of **MW-5**

Client Sample ID: **MW-5**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015016
Lab Project ID: 1225015

Collection Date: 08/19/22 13:32
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500 U		1.00	0.310	ug/L	1		09/01/22 00:49
Chloromethane	0.500 U		1.00	0.310	ug/L	1		09/01/22 00:49
cis-1,2-Dichloroethene	1.08		1.00	0.310	ug/L	1		09/01/22 00:49
cis-1,3-Dichloropropene	0.250 U		0.500	0.150	ug/L	1		09/01/22 00:49
Dibromochloromethane	0.250 U		0.500	0.150	ug/L	1		09/01/22 00:49
Dibromomethane	0.500 U		1.00	0.310	ug/L	1		09/01/22 00:49
Dichlorodifluoromethane	0.500 U		1.00	0.310	ug/L	1		09/01/22 00:49
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/01/22 00:49
Freon-113	5.00 U		10.0	3.10	ug/L	1		09/01/22 00:49
Hexachlorobutadiene	0.500 U		1.00	0.310	ug/L	1		09/01/22 00:49
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		09/01/22 00:49
Methylene chloride	5.00 U		10.0	3.10	ug/L	1		09/01/22 00:49
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		09/01/22 00:49
Naphthalene	0.500 U		1.00	0.310	ug/L	1		09/01/22 00:49
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/01/22 00:49
n-Propylbenzene	0.500 U		1.00	0.310	ug/L	1		09/01/22 00:49
o-Xylene	0.500 U		1.00	0.310	ug/L	1		09/01/22 00:49
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		09/01/22 00:49
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/01/22 00:49
Styrene	0.500 U		1.00	0.310	ug/L	1		09/01/22 00:49
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/01/22 00:49
Tetrachloroethene	56.4		1.00	0.310	ug/L	1		09/01/22 00:49
Toluene	0.500 U		1.00	0.310	ug/L	1		09/01/22 00:49
trans-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		09/01/22 00:49
trans-1,3-Dichloropropene	0.500 U		1.00	0.310	ug/L	1		09/01/22 00:49
Trichloroethene	6.07		1.00	0.310	ug/L	1		09/01/22 00:49
Trichlorofluoromethane	4.92		1.00	0.310	ug/L	1		09/01/22 00:49
Vinyl acetate	5.00 U		10.0	3.10	ug/L	1		09/01/22 00:49
Vinyl chloride	0.0750 U		0.150	0.0500	ug/L	1		09/01/22 00:49
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		09/01/22 00:49
Surrogates								
1,2-Dichloroethane-D4 (surr)	104		81-118		%	1		09/01/22 00:49
4-Bromofluorobenzene (surr)	94.3		85-114		%	1		09/01/22 00:49
Toluene-d8 (surr)	104		89-112		%	1		09/01/22 00:49

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Results of **MW-5**

Client Sample ID: **MW-5**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015016
Lab Project ID: 1225015

Collection Date: 08/19/22 13:32
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS21932
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/01/22 00:49
Container ID: 1225015016-A

Prep Batch: VXX39111
Prep Method: SW5030B
Prep Date/Time: 08/31/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **Trip Blank**

Client Sample ID: **Trip Blank**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015017
Lab Project ID: 1225015

Collection Date: 08/17/22 10:16
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/25/22 17:38
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 17:38
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/25/22 17:38
1,1,2-Trichloroethane	0.200	U	0.400	0.120	ug/L	1		08/25/22 17:38
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 17:38
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/25/22 17:38
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/25/22 17:38
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 17:38
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/25/22 17:38
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 17:38
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 17:38
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/25/22 17:38
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		08/25/22 17:38
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 17:38
1,2-Dichloroethane	0.250	U	0.500	0.200	ug/L	1		08/25/22 17:38
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/25/22 17:38
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 17:38
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 17:38
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/25/22 17:38
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/25/22 17:38
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/25/22 17:38
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		08/25/22 17:38
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/25/22 17:38
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		08/25/22 17:38
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/25/22 17:38
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		08/25/22 17:38
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		08/25/22 17:38
Benzene	0.200	U	0.400	0.120	ug/L	1		08/25/22 17:38
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/25/22 17:38
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 17:38
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/25/22 17:38
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/25/22 17:38
Bromomethane	3.00	U	6.00	3.00	ug/L	1		08/25/22 17:38
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/25/22 17:38
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/25/22 17:38
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/25/22 17:38
Chloroethane	0.500	U	1.00	0.310	ug/L	1		08/25/22 17:38

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Results of **Trip Blank**

Client Sample ID: **Trip Blank**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015017
Lab Project ID: 1225015

Collection Date: 08/17/22 10:16
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500 U		1.00	0.310	ug/L	1		08/25/22 17:38
Chloromethane	0.500 U		1.00	0.310	ug/L	1		08/25/22 17:38
cis-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		08/25/22 17:38
cis-1,3-Dichloropropene	0.250 U		0.500	0.150	ug/L	1		08/25/22 17:38
Dibromochloromethane	0.250 U		0.500	0.150	ug/L	1		08/25/22 17:38
Dibromomethane	0.500 U		1.00	0.310	ug/L	1		08/25/22 17:38
Dichlorodifluoromethane	0.500 U		1.00	0.310	ug/L	1		08/25/22 17:38
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		08/25/22 17:38
Freon-113	5.00 U		10.0	3.10	ug/L	1		08/25/22 17:38
Hexachlorobutadiene	0.500 U		1.00	0.310	ug/L	1		08/25/22 17:38
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		08/25/22 17:38
Methylene chloride	5.00 U		10.0	3.10	ug/L	1		08/25/22 17:38
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		08/25/22 17:38
Naphthalene	0.500 U		1.00	0.310	ug/L	1		08/25/22 17:38
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/25/22 17:38
n-Propylbenzene	0.500 U		1.00	0.310	ug/L	1		08/25/22 17:38
o-Xylene	0.500 U		1.00	0.310	ug/L	1		08/25/22 17:38
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		08/25/22 17:38
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/25/22 17:38
Styrene	0.500 U		1.00	0.310	ug/L	1		08/25/22 17:38
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/25/22 17:38
Tetrachloroethene	0.500 U		1.00	0.310	ug/L	1		08/25/22 17:38
Toluene	0.500 U		1.00	0.310	ug/L	1		08/25/22 17:38
trans-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		08/25/22 17:38
trans-1,3-Dichloropropene	0.500 U		1.00	0.310	ug/L	1		08/25/22 17:38
Trichloroethene	0.500 U		1.00	0.310	ug/L	1		08/25/22 17:38
Trichlorofluoromethane	0.500 U		1.00	0.310	ug/L	1		08/25/22 17:38
Vinyl acetate	5.00 U		10.0	3.10	ug/L	1		08/25/22 17:38
Vinyl chloride	0.0750 U		0.150	0.0500	ug/L	1		08/25/22 17:38
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		08/25/22 17:38
Surrogates								
1,2-Dichloroethane-D4 (surr)	104		81-118		%	1		08/25/22 17:38
4-Bromofluorobenzene (surr)	98.8		85-114		%	1		08/25/22 17:38
Toluene-d8 (surr)	103		89-112		%	1		08/25/22 17:38

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J flagging is activated

Results of **Trip Blank**

Client Sample ID: **Trip Blank**
Client Project ID: **107889 BMES**
Lab Sample ID: 1225015017
Lab Project ID: 1225015

Collection Date: 08/17/22 10:16
Received Date: 08/23/22 10:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS21906
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 08/25/22 17:38
Container ID: 1225015017-A

Prep Batch: VXX39067
Prep Method: SW5030B
Prep Date/Time: 08/25/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Method Blank

Blank ID: MB for HBN 1842151 [VXX/39067]
Blank Lab ID: 1681868

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1225015001, 1225015002, 1225015003, 1225015004, 1225015017

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	Units
1,1,1,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,1-Trichloroethane	0.500U	1.00	0.310	ug/L
1,1,2,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,2-Trichloroethane	0.200U	0.400	0.120	ug/L
1,1-Dichloroethane	0.500U	1.00	0.310	ug/L
1,1-Dichloroethene	0.500U	1.00	0.310	ug/L
1,1-Dichloropropene	0.500U	1.00	0.310	ug/L
1,2,3-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,3-Trichloropropane	0.500U	1.00	0.310	ug/L
1,2,4-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,4-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,2-Dibromo-3-chloropropane	5.00U	10.0	3.10	ug/L
1,2-Dibromoethane	0.0375U	0.0750	0.0180	ug/L
1,2-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,2-Dichloroethane	0.250U	0.500	0.200	ug/L
1,2-Dichloropropane	0.500U	1.00	0.310	ug/L
1,3,5-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,3-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,3-Dichloropropane	0.250U	0.500	0.150	ug/L
1,4-Dichlorobenzene	0.250U	0.500	0.150	ug/L
2,2-Dichloropropane	0.500U	1.00	0.310	ug/L
2-Butanone (MEK)	5.00U	10.0	3.10	ug/L
2-Chlorotoluene	0.500U	1.00	0.310	ug/L
2-Hexanone	5.00U	10.0	3.10	ug/L
4-Chlorotoluene	0.500U	1.00	0.310	ug/L
4-Isopropyltoluene	0.500U	1.00	0.310	ug/L
4-Methyl-2-pentanone (MIBK)	5.00U	10.0	3.10	ug/L
Benzene	0.200U	0.400	0.120	ug/L
Bromobenzene	0.500U	1.00	0.310	ug/L
Bromochloromethane	0.500U	1.00	0.310	ug/L
Bromodichloromethane	0.250U	0.500	0.150	ug/L
Bromoform	0.500U	1.00	0.310	ug/L
Bromomethane	3.00U	6.00	3.00	ug/L
Carbon disulfide	5.00U	10.0	3.10	ug/L
Carbon tetrachloride	0.500U	1.00	0.310	ug/L
Chlorobenzene	0.250U	0.500	0.150	ug/L
Chloroethane	0.500U	1.00	0.310	ug/L
Chloroform	0.500U	1.00	0.310	ug/L

Method Blank

Blank ID: MB for HBN 1842151 [VXX/39067]
Blank Lab ID: 1681868

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1225015001, 1225015002, 1225015003, 1225015004, 1225015017

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	Units
Chloromethane	0.500U	1.00	0.310	ug/L
cis-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
cis-1,3-Dichloropropene	0.250U	0.500	0.150	ug/L
Dibromochloromethane	0.250U	0.500	0.150	ug/L
Dibromomethane	0.500U	1.00	0.310	ug/L
Dichlorodifluoromethane	0.500U	1.00	0.310	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
Freon-113	5.00U	10.0	3.10	ug/L
Hexachlorobutadiene	0.500U	1.00	0.310	ug/L
Isopropylbenzene (Cumene)	0.500U	1.00	0.310	ug/L
Methylene chloride	5.00U	10.0	3.10	ug/L
Methyl-t-butyl ether	5.00U	10.0	3.10	ug/L
Naphthalene	0.500U	1.00	0.310	ug/L
n-Butylbenzene	0.500U	1.00	0.310	ug/L
n-Propylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
sec-Butylbenzene	0.500U	1.00	0.310	ug/L
Styrene	0.500U	1.00	0.310	ug/L
tert-Butylbenzene	0.500U	1.00	0.310	ug/L
Tetrachloroethene	0.500U	1.00	0.310	ug/L
Toluene	0.500U	1.00	0.310	ug/L
trans-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
trans-1,3-Dichloropropene	0.500U	1.00	0.310	ug/L
Trichloroethene	0.500U	1.00	0.310	ug/L
Trichlorofluoromethane	0.500U	1.00	0.310	ug/L
Vinyl acetate	5.00U	10.0	3.10	ug/L
Vinyl chloride	0.0750U	0.150	0.0500	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	108	81-118		%
4-Bromofluorobenzene (surr)	98.5	85-114		%
Toluene-d8 (surr)	102	89-112		%

Method Blank

Blank ID: MB for HBN 1842151 [VXX/39067]
Blank Lab ID: 1681868

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1225015001, 1225015002, 1225015003, 1225015004, 1225015017

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	Units

Batch Information

Analytical Batch: VMS21906
Analytical Method: SW8260D
Instrument: VPA 780/5975 GC/MS
Analyst: AZL
Analytical Date/Time: 8/25/2022 12:26:00PM

Prep Batch: VXX39067
Prep Method: SW5030B
Prep Date/Time: 8/25/2022 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225015 [VXX39067]
Blank Spike Lab ID: 1681869
Date Analyzed: 08/25/2022 12:40

Spike Duplicate ID: LCSD for HBN 1225015 [VXX39067]
Spike Duplicate Lab ID: 1681870
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225015001, 1225015002, 1225015003, 1225015004, 1225015017

Results by **SW8260D**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	30	33.2	111	30	33.1	110	(78-124)	0.42	(< 20)
1,1,1-Trichloroethane	30	30.0	100	30	30.7	102	(74-131)	2.40	(< 20)
1,1,2,2-Tetrachloroethane	30	30.7	102	30	30.2	101	(71-121)	1.60	(< 20)
1,1,2-Trichloroethane	30	31.7	106	30	31.0	103	(80-119)	2.00	(< 20)
1,1-Dichloroethane	30	28.2	94	30	28.5	95	(77-125)	0.88	(< 20)
1,1-Dichloroethene	30	27.6	92	30	28.2	94	(71-131)	2.10	(< 20)
1,1-Dichloropropene	30	29.2	97	30	30.1	100	(79-125)	2.90	(< 20)
1,2,3-Trichlorobenzene	30	31.3	104	30	31.7	106	(69-129)	1.40	(< 20)
1,2,3-Trichloropropane	30	31.4	105	30	30.8	103	(73-122)	1.90	(< 20)
1,2,4-Trichlorobenzene	30	30.9	103	30	31.4	105	(69-130)	1.40	(< 20)
1,2,4-Trimethylbenzene	30	30.7	102	30	31.5	105	(79-124)	2.50	(< 20)
1,2-Dibromo-3-chloropropane	30	30.7	102	30	30.5	102	(62-128)	0.75	(< 20)
1,2-Dibromoethane	30	32.4	108	30	31.9	106	(77-121)	1.40	(< 20)
1,2-Dichlorobenzene	30	31.2	104	30	31.3	104	(80-119)	0.16	(< 20)
1,2-Dichloroethane	30	28.8	96	30	28.4	95	(73-128)	1.20	(< 20)
1,2-Dichloropropane	30	30.2	101	30	30.2	101	(78-122)	0.13	(< 20)
1,3,5-Trimethylbenzene	30	30.6	102	30	31.1	104	(75-124)	1.80	(< 20)
1,3-Dichlorobenzene	30	31.2	104	30	32.0	107	(80-119)	2.50	(< 20)
1,3-Dichloropropane	30	31.2	104	30	30.7	102	(80-119)	1.60	(< 20)
1,4-Dichlorobenzene	30	31.8	106	30	31.6	105	(79-118)	0.51	(< 20)
2,2-Dichloropropane	30	27.9	93	30	28.8	96	(60-139)	3.10	(< 20)
2-Butanone (MEK)	90	86.8	96	90	82.5	92	(56-143)	5.10	(< 20)
2-Chlorotoluene	30	30.6	102	30	31.0	103	(79-122)	1.20	(< 20)
2-Hexanone	90	96.4	107	90	93.3	104	(57-139)	3.20	(< 20)
4-Chlorotoluene	30	30.7	102	30	31.0	103	(78-122)	0.84	(< 20)
4-Isopropyltoluene	30	31.4	105	30	32.3	108	(77-127)	2.60	(< 20)
4-Methyl-2-pentanone (MIBK)	90	93.5	104	90	91.3	101	(67-130)	2.30	(< 20)
Benzene	30	29.2	97	30	29.5	98	(79-120)	0.85	(< 20)
Bromobenzene	30	31.3	104	30	31.4	105	(80-120)	0.29	(< 20)
Bromochloromethane	30	30.0	100	30	29.8	100	(78-123)	0.60	(< 20)
Bromodichloromethane	30	31.3	104	30	31.0	103	(79-125)	0.99	(< 20)
Bromoform	30	30.4	101	30	29.8	99	(66-130)	2.10	(< 20)
Bromomethane	30	26.1	87	30	26.1	87	(53-141)	0.04	(< 20)
Carbon disulfide	45	39.0	87	45	39.8	89	(64-133)	2.10	(< 20)

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225015 [VXX39067]
Blank Spike Lab ID: 1681869
Date Analyzed: 08/25/2022 12:40

Spike Duplicate ID: LCSD for HBN 1225015 [VXX39067]
Spike Duplicate Lab ID: 1681870
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225015001, 1225015002, 1225015003, 1225015004, 1225015017

Results by **SW8260D**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Carbon tetrachloride	30	30.7	102	30	31.8	106	(72-136)	3.20	(< 20)
Chlorobenzene	30	31.5	105	30	31.7	106	(82-118)	0.54	(< 20)
Chloroethane	30	35.3	118	30	33.5	112	(60-138)	5.30	(< 20)
Chloroform	30	29.2	97	30	29.2	97	(79-124)	0.00	(< 20)
Chloromethane	30	26.2	88	30	26.5	88	(50-139)	1.10	(< 20)
cis-1,2-Dichloroethene	30	29.2	97	30	29.1	97	(78-123)	0.31	(< 20)
cis-1,3-Dichloropropene	30	29.5	98	30	29.4	98	(75-124)	0.61	(< 20)
Dibromochloromethane	30	30.8	103	30	30.3	101	(74-126)	1.60	(< 20)
Dibromomethane	30	30.0	100	30	29.3	98	(79-123)	2.60	(< 20)
Dichlorodifluoromethane	30	26.8	89	30	27.4	91	(32-152)	2.20	(< 20)
Ethylbenzene	30	32.5	108	30	32.6	109	(79-121)	0.58	(< 20)
Freon-113	45	42.7	95	45	43.7	97	(70-136)	2.40	(< 20)
Hexachlorobutadiene	30	30.3	101	30	31.3	104	(66-134)	3.10	(< 20)
Isopropylbenzene (Cumene)	30	32.2	107	30	32.5	108	(72-131)	0.99	(< 20)
Methylene chloride	30	28.9	96	30	28.9	96	(74-124)	0.17	(< 20)
Methyl-t-butyl ether	45	46.2	103	45	45.4	101	(71-124)	1.70	(< 20)
Naphthalene	30	32.5	108	30	32.6	109	(61-128)	0.34	(< 20)
n-Butylbenzene	30	30.9	103	30	31.5	105	(75-128)	2.00	(< 20)
n-Propylbenzene	30	30.5	102	30	31.3	104	(76-126)	2.50	(< 20)
o-Xylene	30	31.6	105	30	31.8	106	(78-122)	0.69	(< 20)
P & M -Xylene	60	63.7	106	60	64.6	108	(80-121)	1.40	(< 20)
sec-Butylbenzene	30	31.0	103	30	31.7	106	(77-126)	2.50	(< 20)
Styrene	30	33.0	110	30	32.8	109	(78-123)	0.40	(< 20)
tert-Butylbenzene	30	30.7	102	30	31.8	106	(78-124)	3.50	(< 20)
Tetrachloroethene	30	30.8	103	30	31.3	104	(74-129)	1.80	(< 20)
Toluene	30	29.6	99	30	30.1	100	(80-121)	1.50	(< 20)
trans-1,2-Dichloroethene	30	28.6	95	30	29.0	97	(75-124)	1.30	(< 20)
trans-1,3-Dichloropropene	30	28.7	96	30	28.0	93	(73-127)	2.50	(< 20)
Trichloroethene	30	30.0	100	30	30.4	101	(79-123)	1.30	(< 20)
Trichlorofluoromethane	30	31.2	104	30	33.0	110	(65-141)	5.60	(< 20)
Vinyl acetate	30	27.1	91	30	26.4	88	(54-146)	2.80	(< 20)
Vinyl chloride	30	26.4	88	30	26.6	89	(58-137)	0.57	(< 20)
Xylenes (total)	90	95.3	106	90	96.4	107	(79-121)	1.20	(< 20)

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200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225015 [VXX39067]
Blank Spike Lab ID: 1681869
Date Analyzed: 08/25/2022 12:40

Spike Duplicate ID: LCSD for HBN 1225015 [VXX39067]
Spike Duplicate Lab ID: 1681870
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225015001, 1225015002, 1225015003, 1225015004, 1225015017

Results by **SW8260D**

	Blank Spike (%)			Spike Duplicate (%)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Surrogates									
1,2-Dichloroethane-D4 (surr)	30		105	30		101	(81-118)	3.50	
4-Bromofluorobenzene (surr)	30		97	30		97	(85-114)	0.45	
Toluene-d8 (surr)	30		104	30		104	(89-112)	0.19	

Batch Information

Analytical Batch: **VMS21906**
Analytical Method: **SW8260D**
Instrument: **VPA 780/5975 GC/MS**
Analyst: **AZL**

Prep Batch: **VXX39067**
Prep Method: **SW5030B**
Prep Date/Time: **08/25/2022 06:00**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1842652 [VXX/39107]
Blank Lab ID: 1683293

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1225015005, 1225015006, 1225015007, 1225015008, 1225015009, 1225015010, 1225015011, 1225015012, 1225015013

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	Units
1,1,1,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,1-Trichloroethane	0.500U	1.00	0.310	ug/L
1,1,2,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,2-Trichloroethane	0.200U	0.400	0.120	ug/L
1,1-Dichloroethane	0.500U	1.00	0.310	ug/L
1,1-Dichloroethene	0.500U	1.00	0.310	ug/L
1,1-Dichloropropene	0.500U	1.00	0.310	ug/L
1,2,3-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,3-Trichloropropane	0.500U	1.00	0.310	ug/L
1,2,4-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,4-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,2-Dibromo-3-chloropropane	5.00U	10.0	3.10	ug/L
1,2-Dibromoethane	0.0375U	0.0750	0.0180	ug/L
1,2-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,2-Dichloroethane	0.250U	0.500	0.200	ug/L
1,2-Dichloropropane	0.500U	1.00	0.310	ug/L
1,3,5-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,3-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,3-Dichloropropane	0.250U	0.500	0.150	ug/L
1,4-Dichlorobenzene	0.250U	0.500	0.150	ug/L
2,2-Dichloropropane	0.500U	1.00	0.310	ug/L
2-Butanone (MEK)	5.00U	10.0	3.10	ug/L
2-Chlorotoluene	0.500U	1.00	0.310	ug/L
2-Hexanone	5.00U	10.0	3.10	ug/L
4-Chlorotoluene	0.500U	1.00	0.310	ug/L
4-Isopropyltoluene	0.500U	1.00	0.310	ug/L
4-Methyl-2-pentanone (MIBK)	5.00U	10.0	3.10	ug/L
Benzene	0.200U	0.400	0.120	ug/L
Bromobenzene	0.500U	1.00	0.310	ug/L
Bromochloromethane	0.500U	1.00	0.310	ug/L
Bromodichloromethane	0.250U	0.500	0.150	ug/L
Bromoform	0.500U	1.00	0.310	ug/L
Bromomethane	3.00U	6.00	3.00	ug/L
Carbon disulfide	5.00U	10.0	3.10	ug/L
Carbon tetrachloride	0.500U	1.00	0.310	ug/L
Chlorobenzene	0.250U	0.500	0.150	ug/L
Chloroethane	0.500U	1.00	0.310	ug/L
Chloroform	0.500U	1.00	0.310	ug/L

Method Blank

Blank ID: MB for HBN 1842652 [VXX/39107]
Blank Lab ID: 1683293

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1225015005, 1225015006, 1225015007, 1225015008, 1225015009, 1225015010, 1225015011, 1225015012, 1225015013

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	Units
Chloromethane	0.500U	1.00	0.310	ug/L
cis-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
cis-1,3-Dichloropropene	0.250U	0.500	0.150	ug/L
Dibromochloromethane	0.250U	0.500	0.150	ug/L
Dibromomethane	0.500U	1.00	0.310	ug/L
Dichlorodifluoromethane	0.500U	1.00	0.310	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
Freon-113	5.00U	10.0	3.10	ug/L
Hexachlorobutadiene	0.500U	1.00	0.310	ug/L
Isopropylbenzene (Cumene)	0.500U	1.00	0.310	ug/L
Methylene chloride	5.00U	10.0	3.10	ug/L
Methyl-t-butyl ether	5.00U	10.0	3.10	ug/L
Naphthalene	0.500U	1.00	0.310	ug/L
n-Butylbenzene	0.500U	1.00	0.310	ug/L
n-Propylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
sec-Butylbenzene	0.500U	1.00	0.310	ug/L
Styrene	0.500U	1.00	0.310	ug/L
tert-Butylbenzene	0.500U	1.00	0.310	ug/L
Tetrachloroethene	0.500U	1.00	0.310	ug/L
Toluene	0.500U	1.00	0.310	ug/L
trans-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
trans-1,3-Dichloropropene	0.500U	1.00	0.310	ug/L
Trichloroethene	0.500U	1.00	0.310	ug/L
Trichlorofluoromethane	0.500U	1.00	0.310	ug/L
Vinyl acetate	5.00U	10.0	3.10	ug/L
Vinyl chloride	0.0750U	0.150	0.0500	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	108	81-118		%
4-Bromofluorobenzene (surr)	95.3	85-114		%
Toluene-d8 (surr)	101	89-112		%

Method Blank

Blank ID: MB for HBN 1842652 [VXX/39107]
Blank Lab ID: 1683293

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1225015005, 1225015006, 1225015007, 1225015008, 1225015009, 1225015010, 1225015011, 1225015012, 1225015013

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	Units

Batch Information

Analytical Batch: VMS21931
Analytical Method: SW8260D
Instrument: VPA 780/5975 GC/MS
Analyst: AZL
Analytical Date/Time: 8/31/2022 1:25:00PM

Prep Batch: VXX39107
Prep Method: SW5030B
Prep Date/Time: 8/31/2022 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1225015 [VXX39107]
Blank Spike Lab ID: 1683294
Date Analyzed: 08/31/2022 13:40

Spike Duplicate ID: LCSD for HBN 1225015 [VXX39107]
Spike Duplicate Lab ID: 1683295
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225015005, 1225015006, 1225015007, 1225015008, 1225015009, 1225015010, 1225015011, 1225015012, 1225015013

Results by **SW8260D**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	30	33.6	112	30	33.8	113	(78-124)	0.62	(< 20)
1,1,1-Trichloroethane	30	31.1	104	30	32.0	107	(74-131)	3.00	(< 20)
1,1,2,2-Tetrachloroethane	30	29.6	99	30	29.6	99	(71-121)	0.03	(< 20)
1,1,2-Trichloroethane	30	31.1	104	30	31.2	104	(80-119)	0.06	(< 20)
1,1-Dichloroethane	30	29.0	97	30	29.3	98	(77-125)	0.86	(< 20)
1,1-Dichloroethene	30	29.5	98	30	29.9	100	(71-131)	1.30	(< 20)
1,1-Dichloropropene	30	30.0	100	30	30.8	103	(79-125)	2.60	(< 20)
1,2,3-Trichlorobenzene	30	31.7	106	30	32.0	107	(69-129)	1.10	(< 20)
1,2,3-Trichloropropane	30	30.5	102	30	30.6	102	(73-122)	0.46	(< 20)
1,2,4-Trichlorobenzene	30	31.2	104	30	31.5	105	(69-130)	1.10	(< 20)
1,2,4-Trimethylbenzene	30	30.0	100	30	30.7	102	(79-124)	2.20	(< 20)
1,2-Dibromo-3-chloropropane	30	29.7	99	30	30.0	100	(62-128)	1.00	(< 20)
1,2-Dibromoethane	30	32.5	108	30	32.3	108	(77-121)	0.59	(< 20)
1,2-Dichlorobenzene	30	30.9	103	30	31.3	104	(80-119)	1.20	(< 20)
1,2-Dichloroethane	30	29.3	98	30	29.4	98	(73-128)	0.34	(< 20)
1,2-Dichloropropane	30	30.8	103	30	31.2	104	(78-122)	1.10	(< 20)
1,3,5-Trimethylbenzene	30	29.7	99	30	30.5	102	(75-124)	2.60	(< 20)
1,3-Dichlorobenzene	30	31.7	106	30	31.9	106	(80-119)	0.82	(< 20)
1,3-Dichloropropane	30	30.8	103	30	30.6	102	(80-119)	0.65	(< 20)
1,4-Dichlorobenzene	30	31.8	106	30	32.2	107	(79-118)	1.50	(< 20)
2,2-Dichloropropane	30	28.9	96	30	29.8	99	(60-139)	3.00	(< 20)
2-Butanone (MEK)	90	91.3	101	90	90.9	101	(56-143)	0.46	(< 20)
2-Chlorotoluene	30	29.8	99	30	30.5	102	(79-122)	2.50	(< 20)
2-Hexanone	90	95.5	106	90	94.2	105	(57-139)	1.40	(< 20)
4-Chlorotoluene	30	29.9	100	30	30.2	101	(78-122)	1.10	(< 20)
4-Isopropyltoluene	30	30.9	103	30	31.7	106	(77-127)	2.60	(< 20)
4-Methyl-2-pentanone (MIBK)	90	95.2	106	90	94.9	105	(67-130)	0.33	(< 20)
Benzene	30	30.0	100	30	30.6	102	(79-120)	1.80	(< 20)
Bromobenzene	30	31.2	104	30	31.8	106	(80-120)	1.90	(< 20)
Bromochloromethane	30	31.9	106	30	32.0	107	(78-123)	0.34	(< 20)
Bromodichloromethane	30	32.3	108	30	32.4	108	(79-125)	0.43	(< 20)
Bromoform	30	31.1	104	30	30.9	103	(66-130)	0.61	(< 20)
Bromomethane	30	20.8	69	30	21.8	73	(53-141)	4.90	(< 20)
Carbon disulfide	45	41.6	92	45	42.6	95	(64-133)	2.40	(< 20)

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1225015 [VXX39107]
Blank Spike Lab ID: 1683294
Date Analyzed: 08/31/2022 13:40

Spike Duplicate ID: LCSD for HBN 1225015 [VXX39107]
Spike Duplicate Lab ID: 1683295
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225015005, 1225015006, 1225015007, 1225015008, 1225015009, 1225015010, 1225015011, 1225015012, 1225015013

Results by **SW8260D**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Carbon tetrachloride	30	32.5	108	30	33.4	111	(72-136)	2.90	(< 20)
Chlorobenzene	30	31.5	105	30	32.0	107	(82-118)	1.70	(< 20)
Chloroethane	30	34.2	114	30	34.1	114	(60-138)	0.44	(< 20)
Chloroform	30	30.1	100	30	30.4	101	(79-124)	1.10	(< 20)
Chloromethane	30	24.9	83	30	25.6	86	(50-139)	2.90	(< 20)
cis-1,2-Dichloroethene	30	30.3	101	30	30.6	102	(78-123)	0.76	(< 20)
cis-1,3-Dichloropropene	30	29.8	99	30	30.3	101	(75-124)	1.70	(< 20)
Dibromochloromethane	30	31.5	105	30	31.4	105	(74-126)	0.16	(< 20)
Dibromomethane	30	30.4	101	30	30.8	103	(79-123)	1.30	(< 20)
Dichlorodifluoromethane	30	27.6	92	30	28.8	96	(32-152)	4.10	(< 20)
Ethylbenzene	30	32.1	107	30	32.8	109	(79-121)	2.10	(< 20)
Freon-113	45	45.4	101	45	46.6	104	(70-136)	2.70	(< 20)
Hexachlorobutadiene	30	30.7	102	30	31.9	106	(66-134)	3.80	(< 20)
Isopropylbenzene (Cumene)	30	31.9	106	30	32.7	109	(72-131)	2.50	(< 20)
Methylene chloride	30	30.4	101	30	30.3	101	(74-124)	0.16	(< 20)
Methyl-t-butyl ether	45	47.8	106	45	47.7	106	(71-124)	0.21	(< 20)
Naphthalene	30	32.1	107	30	32.6	109	(61-128)	1.60	(< 20)
n-Butylbenzene	30	29.8	99	30	30.7	102	(75-128)	3.00	(< 20)
n-Propylbenzene	30	29.8	99	30	30.7	102	(76-126)	2.80	(< 20)
o-Xylene	30	31.7	106	30	32.3	108	(78-122)	1.80	(< 20)
P & M -Xylene	60	64.2	107	60	65.3	109	(80-121)	1.80	(< 20)
sec-Butylbenzene	30	30.6	102	30	31.3	104	(77-126)	2.30	(< 20)
Styrene	30	32.7	109	30	33.2	111	(78-123)	1.30	(< 20)
tert-Butylbenzene	30	30.6	102	30	31.4	105	(78-124)	2.50	(< 20)
Tetrachloroethene	30	31.0	103	30	31.9	106	(74-129)	2.90	(< 20)
Toluene	30	29.5	98	30	30.0	100	(80-121)	1.80	(< 20)
trans-1,2-Dichloroethene	30	29.8	99	30	30.5	102	(75-124)	2.50	(< 20)
trans-1,3-Dichloropropene	30	28.1	94	30	28.1	94	(73-127)	0.25	(< 20)
Trichloroethene	30	30.9	103	30	31.7	106	(79-123)	2.70	(< 20)
Trichlorofluoromethane	30	32.8	109	30	33.7	112	(65-141)	2.70	(< 20)
Vinyl acetate	30	26.6	89	30	27.2	91	(54-146)	2.10	(< 20)
Vinyl chloride	30	25.6	85	30	26.4	88	(58-137)	3.30	(< 20)
Xylenes (total)	90	95.9	107	90	97.7	109	(79-121)	1.80	(< 20)

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1225015 [VXX39107]
Blank Spike Lab ID: 1683294
Date Analyzed: 08/31/2022 13:40

Spike Duplicate ID: LCSD for HBN 1225015 [VXX39107]
Spike Duplicate Lab ID: 1683295
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225015005, 1225015006, 1225015007, 1225015008, 1225015009, 1225015010, 1225015011, 1225015012, 1225015013

Results by **SW8260D**

	Blank Spike (%)			Spike Duplicate (%)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Surrogates									
1,2-Dichloroethane-D4 (surr)	30		105	30		104	(81-118)	0.45	
4-Bromofluorobenzene (surr)	30		96	30		95	(85-114)	1.20	
Toluene-d8 (surr)	30		103	30		103	(89-112)	0.32	

Batch Information

Analytical Batch: **VMS21931**
Analytical Method: **SW8260D**
Instrument: **VPA 780/5975 GC/MS**
Analyst: **AZL**

Prep Batch: **VXX39107**
Prep Method: **SW5030B**
Prep Date/Time: **08/31/2022 06:00**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1842661 [VXX/39111]
Blank Lab ID: 1683345

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1225015014, 1225015015, 1225015016

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	Units
1,1,1,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,1-Trichloroethane	0.500U	1.00	0.310	ug/L
1,1,2,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,2-Trichloroethane	0.200U	0.400	0.120	ug/L
1,1-Dichloroethane	0.500U	1.00	0.310	ug/L
1,1-Dichloroethene	0.500U	1.00	0.310	ug/L
1,1-Dichloropropene	0.500U	1.00	0.310	ug/L
1,2,3-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,3-Trichloropropane	0.500U	1.00	0.310	ug/L
1,2,4-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,4-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,2-Dibromo-3-chloropropane	5.00U	10.0	3.10	ug/L
1,2-Dibromoethane	0.0375U	0.0750	0.0180	ug/L
1,2-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,2-Dichloroethane	0.250U	0.500	0.200	ug/L
1,2-Dichloropropane	0.500U	1.00	0.310	ug/L
1,3,5-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,3-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,3-Dichloropropane	0.250U	0.500	0.150	ug/L
1,4-Dichlorobenzene	0.250U	0.500	0.150	ug/L
2,2-Dichloropropane	0.500U	1.00	0.310	ug/L
2-Butanone (MEK)	5.00U	10.0	3.10	ug/L
2-Chlorotoluene	0.500U	1.00	0.310	ug/L
2-Hexanone	5.00U	10.0	3.10	ug/L
4-Chlorotoluene	0.500U	1.00	0.310	ug/L
4-Isopropyltoluene	0.500U	1.00	0.310	ug/L
4-Methyl-2-pentanone (MIBK)	5.00U	10.0	3.10	ug/L
Benzene	0.200U	0.400	0.120	ug/L
Bromobenzene	0.500U	1.00	0.310	ug/L
Bromochloromethane	0.500U	1.00	0.310	ug/L
Bromodichloromethane	0.250U	0.500	0.150	ug/L
Bromoform	0.500U	1.00	0.310	ug/L
Bromomethane	3.00U	6.00	3.00	ug/L
Carbon disulfide	5.00U	10.0	3.10	ug/L
Carbon tetrachloride	0.500U	1.00	0.310	ug/L
Chlorobenzene	0.250U	0.500	0.150	ug/L
Chloroethane	0.500U	1.00	0.310	ug/L
Chloroform	0.500U	1.00	0.310	ug/L

Method Blank

Blank ID: MB for HBN 1842661 [VXX/39111]
Blank Lab ID: 1683345

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1225015014, 1225015015, 1225015016

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	Units
Chloromethane	0.500U	1.00	0.310	ug/L
cis-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
cis-1,3-Dichloropropene	0.250U	0.500	0.150	ug/L
Dibromochloromethane	0.250U	0.500	0.150	ug/L
Dibromomethane	0.500U	1.00	0.310	ug/L
Dichlorodifluoromethane	0.500U	1.00	0.310	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
Freon-113	5.00U	10.0	3.10	ug/L
Hexachlorobutadiene	0.500U	1.00	0.310	ug/L
Isopropylbenzene (Cumene)	0.500U	1.00	0.310	ug/L
Methylene chloride	5.00U	10.0	3.10	ug/L
Methyl-t-butyl ether	5.00U	10.0	3.10	ug/L
Naphthalene	0.500U	1.00	0.310	ug/L
n-Butylbenzene	0.500U	1.00	0.310	ug/L
n-Propylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
sec-Butylbenzene	0.500U	1.00	0.310	ug/L
Styrene	0.500U	1.00	0.310	ug/L
tert-Butylbenzene	0.500U	1.00	0.310	ug/L
Tetrachloroethene	0.500U	1.00	0.310	ug/L
Toluene	0.500U	1.00	0.310	ug/L
trans-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
trans-1,3-Dichloropropene	0.500U	1.00	0.310	ug/L
Trichloroethene	0.500U	1.00	0.310	ug/L
Trichlorofluoromethane	0.500U	1.00	0.310	ug/L
Vinyl acetate	5.00U	10.0	3.10	ug/L
Vinyl chloride	0.0750U	0.150	0.0500	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	110	81-118		%
4-Bromofluorobenzene (surr)	93.9	85-114		%
Toluene-d8 (surr)	102	89-112		%

Method Blank

Blank ID: MB for HBN 1842661 [VXX/39111]
Blank Lab ID: 1683345

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1225015014, 1225015015, 1225015016

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	Units

Batch Information

Analytical Batch: VMS21932
Analytical Method: SW8260D
Instrument: VPA 780/5975 GC/MS
Analyst: AZL
Analytical Date/Time: 8/31/2022 10:07:00PM

Prep Batch: VXX39111
Prep Method: SW5030B
Prep Date/Time: 8/31/2022 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1225015 [VXX39111]
Blank Spike Lab ID: 1683346
Date Analyzed: 08/31/2022 22:22

Spike Duplicate ID: LCSD for HBN 1225015 [VXX39111]
Spike Duplicate Lab ID: 1683347
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225015014, 1225015015, 1225015016

Results by **SW8260D**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	30	33.8	113	30	34.1	114	(78-124)	0.74	(< 20)
1,1,1-Trichloroethane	30	32.3	108	30	32.7	109	(74-131)	1.30	(< 20)
1,1,2,2-Tetrachloroethane	30	29.3	98	30	29.7	99	(71-121)	1.50	(< 20)
1,1,2-Trichloroethane	30	31.3	104	30	31.5	105	(80-119)	0.51	(< 20)
1,1-Dichloroethane	30	29.8	99	30	30.2	101	(77-125)	1.30	(< 20)
1,1-Dichloroethene	30	30.8	103	30	30.6	102	(71-131)	0.62	(< 20)
1,1-Dichloropropene	30	30.9	103	30	31.1	104	(79-125)	0.84	(< 20)
1,2,3-Trichlorobenzene	30	31.3	104	30	32.2	107	(69-129)	2.90	(< 20)
1,2,3-Trichloropropane	30	30.3	101	30	31.1	104	(73-122)	2.50	(< 20)
1,2,4-Trichlorobenzene	30	30.6	102	30	31.5	105	(69-130)	2.90	(< 20)
1,2,4-Trimethylbenzene	30	30.7	102	30	30.6	102	(79-124)	0.49	(< 20)
1,2-Dibromo-3-chloropropane	30	29.1	97	30	29.4	98	(62-128)	0.85	(< 20)
1,2-Dibromoethane	30	32.2	107	30	32.9	110	(77-121)	2.10	(< 20)
1,2-Dichlorobenzene	30	31.6	105	30	31.7	106	(80-119)	0.22	(< 20)
1,2-Dichloroethane	30	29.8	99	30	30.7	102	(73-128)	3.00	(< 20)
1,2-Dichloropropane	30	31.2	104	30	32.0	107	(78-122)	2.80	(< 20)
1,3,5-Trimethylbenzene	30	30.6	102	30	30.7	102	(75-124)	0.39	(< 20)
1,3-Dichlorobenzene	30	32.2	107	30	32.3	108	(80-119)	0.28	(< 20)
1,3-Dichloropropane	30	30.6	102	30	31.1	104	(80-119)	1.50	(< 20)
1,4-Dichlorobenzene	30	32.0	107	30	32.2	107	(79-118)	0.59	(< 20)
2,2-Dichloropropane	30	29.0	97	30	29.5	99	(60-139)	1.80	(< 20)
2-Butanone (MEK)	90	86.1	96	90	88.4	98	(56-143)	2.60	(< 20)
2-Chlorotoluene	30	30.2	101	30	30.1	100	(79-122)	0.36	(< 20)
2-Hexanone	90	92.2	102	90	92.4	103	(57-139)	0.21	(< 20)
4-Chlorotoluene	30	30.3	101	30	30.3	101	(78-122)	0.03	(< 20)
4-Isopropyltoluene	30	31.7	106	30	31.7	106	(77-127)	0.03	(< 20)
4-Methyl-2-pentanone (MIBK)	90	93.8	104	90	96.8	108	(67-130)	3.20	(< 20)
Benzene	30	31.0	103	30	31.7	106	(79-120)	2.30	(< 20)
Bromobenzene	30	31.8	106	30	32.2	107	(80-120)	1.10	(< 20)
Bromochloromethane	30	32.6	109	30	33.5	112	(78-123)	2.70	(< 20)
Bromodichloromethane	30	32.5	108	30	33.4	111	(79-125)	2.60	(< 20)
Bromoform	30	30.4	101	30	30.6	102	(66-130)	0.92	(< 20)
Bromomethane	30	21.2	71	30	22.0	73	(53-141)	3.70	(< 20)
Carbon disulfide	45	43.1	96	45	42.9	95	(64-133)	0.42	(< 20)

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1225015 [VXX39111]
Blank Spike Lab ID: 1683346
Date Analyzed: 08/31/2022 22:22

Spike Duplicate ID: LCSD for HBN 1225015 [VXX39111]
Spike Duplicate Lab ID: 1683347
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225015014, 1225015015, 1225015016

Results by **SW8260D**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Carbon tetrachloride	30	33.9	113	30	33.8	113	(72-136)	0.35	(< 20)
Chlorobenzene	30	32.4	108	30	32.3	108	(82-118)	0.15	(< 20)
Chloroethane	30	38.8	129	30	36.3	121	(60-138)	6.80	(< 20)
Chloroform	30	30.8	103	30	31.6	105	(79-124)	2.40	(< 20)
Chloromethane	30	25.6	85	30	26.1	87	(50-139)	1.90	(< 20)
cis-1,2-Dichloroethene	30	30.3	101	30	31.9	106	(78-123)	4.90	(< 20)
cis-1,3-Dichloropropene	30	30.0	100	30	30.9	103	(75-124)	2.90	(< 20)
Dibromochloromethane	30	30.8	103	30	31.2	104	(74-126)	1.50	(< 20)
Dibromomethane	30	31.2	104	30	31.6	105	(79-123)	1.40	(< 20)
Dichlorodifluoromethane	30	28.9	96	30	29.1	97	(32-152)	0.59	(< 20)
Ethylbenzene	30	33.0	110	30	33.0	110	(79-121)	0.09	(< 20)
Freon-113	45	47.3	105	45	47.1	105	(70-136)	0.32	(< 20)
Hexachlorobutadiene	30	30.3	101	30	30.4	101	(66-134)	0.46	(< 20)
Isopropylbenzene (Cumene)	30	33.1	110	30	32.5	108	(72-131)	1.80	(< 20)
Methylene chloride	30	30.8	103	30	31.4	105	(74-124)	2.20	(< 20)
Methyl-t-butyl ether	45	47.2	105	45	49.0	109	(71-124)	3.70	(< 20)
Naphthalene	30	31.9	106	30	32.7	109	(61-128)	2.50	(< 20)
n-Butylbenzene	30	30.1	100	30	30.0	100	(75-128)	0.47	(< 20)
n-Propylbenzene	30	30.5	102	30	30.3	101	(76-126)	0.43	(< 20)
o-Xylene	30	32.5	108	30	32.4	108	(78-122)	0.18	(< 20)
P & M -Xylene	60	65.9	110	60	65.3	109	(80-121)	0.99	(< 20)
sec-Butylbenzene	30	31.1	104	30	30.9	103	(77-126)	0.71	(< 20)
Styrene	30	33.6	112	30	33.3	111	(78-123)	1.00	(< 20)
tert-Butylbenzene	30	31.4	105	30	31.4	105	(78-124)	0.16	(< 20)
Tetrachloroethene	30	31.9	106	30	31.8	106	(74-129)	0.35	(< 20)
Toluene	30	30.4	101	30	30.2	101	(80-121)	0.69	(< 20)
trans-1,2-Dichloroethene	30	30.8	103	30	31.5	105	(75-124)	2.10	(< 20)
trans-1,3-Dichloropropene	30	27.4	91	30	28.2	94	(73-127)	2.70	(< 20)
Trichloroethene	30	31.9	106	30	32.4	108	(79-123)	1.60	(< 20)
Trichlorofluoromethane	30	34.2	114	30	35.7	119	(65-141)	4.10	(< 20)
Vinyl acetate	30	26.1	87	30	27.4	91	(54-146)	5.00	(< 20)
Vinyl chloride	30	27.2	91	30	27.2	91	(58-137)	0.04	(< 20)
Xylenes (total)	90	98.4	109	90	97.7	109	(79-121)	0.72	(< 20)

Blank Spike Summary

Blank Spike ID: LCS for HBN 1225015 [VXX39111]
Blank Spike Lab ID: 1683346
Date Analyzed: 08/31/2022 22:22

Spike Duplicate ID: LCSD for HBN 1225015 [VXX39111]
Spike Duplicate Lab ID: 1683347
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225015014, 1225015015, 1225015016

Results by **SW8260D**

	Blank Spike (%)			Spike Duplicate (%)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Surrogates									
1,2-Dichloroethane-D4 (surr)	30		103	30		105	(81-118)	2.40	
4-Bromofluorobenzene (surr)	30		94	30		94	(85-114)	0.60	
Toluene-d8 (surr)	30		104	30		102	(89-112)	2.10	

Batch Information

Analytical Batch: **VMS21932**
Analytical Method: **SW8260D**
Instrument: **VPA 780/5975 GC/MS**
Analyst: **AZL**

Prep Batch: **VXX39111**
Prep Method: **SW5030B**
Prep Date/Time: **08/31/2022 06:00**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

CHAIN-OF-CUSTODY RECORD

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
2355 Hill Road
Fairbanks, AK 99709
(907) 479-0600
www.shannonwilson.com

Laboratory SGS
Attn: Jen Dawkins

1225015

Turn Around Time: ☒ Normal ☐ Rush — Please Specify

Quote No: SGS-MSA-2016

J-Flags: ☒ Yes ☐ No

Analytical Methods (include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	VOC (8260 D)							Total No.	Remarks/Matrix Composition/Grab? Sample Containers
MW-9	1AC	1016	8/17/22	X							3	Groundwater
MW-10	2AC	1120	8/17/22	X							3	
MW-8	3AC	1515	8/17/22	X							3	
MW-11	4AC	1619	8/17/22	X							3	
MW-3R	5AC	1055	8/18/22	X							3	
MW-2R	6AC	1145	8/18/22	X							3	
MW-12	7AC	1323	8/18/22	X							3	
MW-13	8AC	1455	8/18/22	X							3	
MW-4R	9AC	1720	8/18/22	X							3	
MW-7	10AC	1905	8/18/22	X							3	

Project Information	
Number:	107889
Name:	BMES
Contact:	DHF
Ongoing Project?	Yes ☒ No ☐
Sampler:	KND

Sample Receipt	
Total No. of Containers:	51
COC Seals/Intact? Y/N/NA	
Received Good Cond./Cold	
Temp:	1.4
Delivery Method:	

Notes:
Trip blank was kept in cooler w/samples

Reliquished By: 1.	Reliquished By: 2.	Reliquished By: 3.
Signature: Time: 1020	Signature: Time: 1457	Signature: Time:
Printed Name: Kailyn Davis Date: 8/22/22	Printed Name: Date: 8/22/22	Printed Name: Date:
Company: S&W	Company: SGS	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: Time: 1020	Signature: Time: 10:30	Signature: Time:
Printed Name: Jen Dawkins Date: 8-22-22	Printed Name: NV Date: 8/23/22	Printed Name: Date:
Company: SGS	Company: SGS	Company:

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - job file

1.8°C 023

No.

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

2355 Hill Road
Fairbanks, AK 99709
(907) 479-0600
www.shannonwilson.com

CHAIN-OF-CUSTODY RECORD

1225015

La
Att

Analytical Methods (include preserva

Turn Around Time:	Quote No: SGS-MSA-2016
☒ Normal ☐ Rush	J-Flags: ☒ Yes ☐ No
Please Specify	

Sample Identity	Lab No.	Time	Date Sampled	VOC (8260 D)	Total Number of Containe	Remarks/Matrix Composition/Grab? Sample Containers
MW-101R	(1) AC	2100	8/18/22	X	3	Groundwater high VOC
MW-1R	(2) AC	2110	8/18/22	X	3	high VOC
EB-1R	(3) AC	2125	8/18/22	X	3	
MW-6	(4) AC	1235	8/19/22	X	3	
MW-105	(5) AC	1322	8/19/22	X	3	
MW-5	(6) AC	1332	8/19/22	X	3	
Trip Blank	(7) AC			X	3	

Project Information	
Number:	107889
Name:	BMES
Contact:	DHF
Ongoing Project?	Yes ☒ No ☐
Sampler:	KND

Sample Receipt	
Total No. of Containers:	44851
COC Seals/Intact? Y/N/NA	
Received Good Cond./Cold	
Temp:	
Delivery Method:	

Reliquished By: 1.	Reliquished By: 2.	Reliquished By: 3.
Signature: Time: 1020	Signature: Time: 1400	Signature: Time:
Printed Name: Kailyn Davis Date: 8/22/22	Printed Name: Date: 8/22/22	Printed Name: Date:
Company: S&W	Company: SGS	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: Time: 1020	Signature: Time:	Signature: Time:
Printed Name: Date: 8/22/22	Printed Name: Date:	Printed Name: Date:
Company: SGS	Company:	Company:

Notes:

See pg 1

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - job file

No. _____

SGS

e-Sample Receipt Form FBK

1225015

SGS Workorder #: S&W

Review Criteria	Condition (Yes, No, N/A	Ex
Chain of Custody / Temperature Requirements		Yes Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	N/A	
COC accompanied samples?	Yes	
DOD: Were samples received in COC corresponding coolers?	N/A	

☐ **Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required

Temperature blank compliant* (i.e., 0-6 °C after CF)?	Yes	Cooler ID:	1	@	1.4	°C	Therm. ID:	D52
		Cooler ID:		@		°C	Therm. ID:	
If samples received without a temperature blank, the "cooler temperature" will be documented instead & "COOLER TEMP" will be noted to the right. "ambient" or "chilled" will be noted if neither is available.		Cooler ID:		@		°C	Therm. ID:	
		Cooler ID:		@		°C	Therm. ID:	

*If >6°C, were samples collected <8 hours ago?	
If <0°C, were sample containers ice free?	
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.	

Holding Time / Documentation / Sample Condition Requirements	Note: Refer to form F-083 "Sample Guide" for specific holding times.
Do samples **match COC**** (i.e.,sample IDs,dates/times collected)? N/C	
**Note: If times differ <1hr, record details & login per COC.	
***Note: If sample information on containers differs from COC, SGS will default to COC information	
Were samples in good condition (no leaks/cracks/breakage)? Yes	
Were analytical requests clear? (i.e., method is specified for analyses with multiple option for analysis (Ex: BTEX, Metals) Yes	
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples? Yes	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)? N/C	
Were all soil VOAs field extracted with MeOH+BFB? N/A	
For Rush/Short Hold Time, was RUSH/Short HT email sent? N/A	

Note to Client: Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

Additional notes (if applicable):

SGS Profile #	363145	363145

e-Sample Receipt Form

SGS Workorder #:	1225015	1225015

Review Criteria	Condition (Yes, No, N/A	Exceptions Noted below
Chain of Custody / Temperature Requirements	*Note:* Temperature and COC seal information is found on the chain of custody form	
DOD only: Did all sample coolers have a corresponding COC?	N/A	
If <0°C, were sample containers ice free?	N/A	
Note containers received with ice:		
Identify any containers received at non-compliant temperature: *(Use form FS-0029 if more space is needed)*		
Holding Time / Documentation / Sample Condition Requirements	*Note:* Refer to form F-083 "Sample Guide" for specific holding times and sample containers.	
Were samples received within analytical holding time?	Yes	
Do sample labels match COC? Record discrepancies.	Yes	
Note: *If information on containers differs from COC, default to COC information for login. If times differ <1hr, record details & login per COC.*		
Were analytical requests clear? *(i.e. method is specified for analyses with multiple option for method (Eg, BTEX 8021 vs 8260, Metals 6020 vs 200.8)*	Yes	
Were proper containers (type/mass/volume/preservative)used? Note: Exemption for metals analysis by 200.8/6020 in water.	Yes	
Volatile Analysis Requirements (VOC, GRO, LL-Hg, etc.)		
Were all soil VOAs received with a corresponding % solids container?	N/A	
Were Trip Blanks (e.g., VOAs, LL-Hg) in cooler with samples?	Yes	
Were all water VOA vials free of headspace (e.g., bubbles ≤ 6mm)?	Yes	
Were all soil VOAs field extracted with Methanol+BFB?	N/A	
Note to Client: Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.		
Additional notes (if applicable):		

Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1225015001-A	HCL to pH < 2	OK	1225015017-B	HCL to pH < 2	OK
1225015001-B	HCL to pH < 2	OK	1225015017-C	HCL to pH < 2	OK
1225015001-C	HCL to pH < 2	OK			
1225015002-A	HCL to pH < 2	OK			
1225015002-B	HCL to pH < 2	OK			
1225015002-C	HCL to pH < 2	OK			
1225015003-A	HCL to pH < 2	OK			
1225015003-B	HCL to pH < 2	OK			
1225015003-C	HCL to pH < 2	OK			
1225015004-A	HCL to pH < 2	OK			
1225015004-B	HCL to pH < 2	OK			
1225015004-C	HCL to pH < 2	OK			
1225015005-A	HCL to pH < 2	OK			
1225015005-B	HCL to pH < 2	OK			
1225015005-C	HCL to pH < 2	OK			
1225015006-A	HCL to pH < 2	OK			
1225015006-B	HCL to pH < 2	OK			
1225015006-C	HCL to pH < 2	OK			
1225015007-A	HCL to pH < 2	OK			
1225015007-B	HCL to pH < 2	OK			
1225015007-C	HCL to pH < 2	OK			
1225015008-A	HCL to pH < 2	OK			
1225015008-B	HCL to pH < 2	OK			
1225015008-C	HCL to pH < 2	OK			
1225015009-A	HCL to pH < 2	OK			
1225015009-B	HCL to pH < 2	OK			
1225015009-C	HCL to pH < 2	OK			
1225015010-A	HCL to pH < 2	OK			
1225015010-B	HCL to pH < 2	OK			
1225015010-C	HCL to pH < 2	OK			
1225015011-A	HCL to pH < 2	OK			
1225015011-B	HCL to pH < 2	OK			
1225015011-C	HCL to pH < 2	OK			
1225015012-A	HCL to pH < 2	OK			
1225015012-B	HCL to pH < 2	OK			
1225015012-C	HCL to pH < 2	OK			
1225015013-A	HCL to pH < 2	OK			
1225015013-B	HCL to pH < 2	OK			
1225015013-C	HCL to pH < 2	OK			
1225015014-A	HCL to pH < 2	OK			
1225015014-B	HCL to pH < 2	OK			
1225015014-C	HCL to pH < 2	OK			
1225015015-A	HCL to pH < 2	OK			
1225015015-B	HCL to pH < 2	OK			
1225015015-C	HCL to pH < 2	OK			
1225015016-A	HCL to pH < 2	OK			
1225015016-B	HCL to pH < 2	OK			
1225015016-C	HCL to pH < 2	OK			
1225015017-A	HCL to pH < 2	OK			

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition

Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.
BU - The container was received with headspace greater than 6mm.
DM - The container was received damaged.
FR - The container was received frozen and not usable for Bacteria or BOD analyses.
IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.
NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.
PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
QN - Insufficient sample quantity provided.

APPENDIX D: LABORATORY DATA REVIEW CHECKLISTS

Appendix D

Laboratory Data Review Checklists

CONTENTS

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	Justin Risley, EIT	**CS Site Name:**	Bentley Mall East Satellite	**Lab Name:**	SGS North America, Inc.
Title:	Engineering Staff	**ADEC File No.:**	102.38.122	**Lab Report No.:**	1225015
Consulting Firm:	Shannon & Wilson, Inc.	**Hazard ID No.:**	4033	**Lab Report Date:**	September 27, 2022

Note: *Any N/A or No box checked must have an explanation in the comments box.*

1. **Laboratory**

   a. Did an ADEC Contaminated Sites Laboratory Approval Program (CS-LAP) approved laboratory receive and perform all of the submitted sample analyses?
   Yes ☒ No ☐ N/A ☐
   Comments: Analyses were performed by SGS North America in Anchorage, Alaska.

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses CS-LAP approved?
   Yes ☐ No ☐ N/A ☒
   Comments: Samples were not transferred to another "network" laboratory or sub-contracted to an alternate laboratory.

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☒ No ☐ N/A ☐
   Comments:

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Analyses requested: VOC by method SW8260D
   Comments:

3. **Laboratory Sample Receipt Documentation**

   a. Is the sample/cooler temperature documented and within range at receipt (0° to 6° C)?
   Yes ☐ No ☒ N/A ☐

Cooler temperature(s): Cooler temperature was not reported by the laboratory.
Sample temperature(s): Sample temperatures were not noted by the laboratory.
Comments: A temperature blank was included with the samples in the cooler and is used to access temperature preservation. The temperature blank was reported at 1.4° C upon arrival at the Fairbanks SGS sample processing facility and at 1.5° C upon arrival at the Anchorage SGS laboratory which is within the range of 0° to 6° C.

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☒ No ☐ N/A ☐
Comments:

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
Yes ☒ No ☐ N/A ☐
Comments: The laboratory noted that samples were received in acceptable condition.

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, canister not holding a vacuum, etc.?
Yes ☐ No ☐ N/A ☒
Comments: The laboratory did not identify any discrepancies at sample login.

e. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: See above.

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☒ No ☐ N/A ☐
Comments: The case narrative notes the following:
The CCV recovery for bromomethane associated with project samples *MW-3R, MW-2R, MW-12, MW-13, MW-4R, MW-7, MW-101R, MW-1R, EB-1R, MW-6, MW-105*, and *MW-5* did not meet laboratory quality control criteria, biased low. Bromomethane was not detected in the aforementioned samples. Consequently, the bromomethane results are considered estimates and have been flagged ‘UJ’ in the analytical tables.

c. Were all the corrective actions documented?
Yes ☐ No ☐ N/A ☒
Comments: Corrective actions were not required.

d. What is the effect on data quality/usability according to the case narrative?
Comments: The case narrative notes that the project samples associated with the CCV recovery failure for bromomethane are biased low.

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐
Comments:

b. Are all applicable holding times met?
Yes ☒ No ☐ N/A ☐
Comments:

c. Are all soils reported on a dry weight basis?
Yes ☐ No ☐ N/A ☒
Comments: Soil samples were not submitted with this work order.

d. Are the reported limits of quantitation (LOQ) or limits of detections (LOD), or reporting limits (RL) less than the Cleanup Level or the action level for the project?
Yes ☐ No ☒ N/A ☐
Comments: Analytical sensitivity was evaluated to verify that LODs met applicable DEC migration to water cleanup levels for non-detect results, as appropriate. Analytes with LODs that do not meet applicable cleanup levels are bolded in the analytical results table. Data quality and/or usability may be affected as these analytes cannot be detected, if present, at their respective cleanup level.

e. Is the data quality or usability affected?
Yes ☒ No ☐ N/A ☐
Comments: Data quality and/or usability may be affected as these analytes cannot be detected, if present, at their respective cleanup level.

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Are all method blank results less than LOQ (or RL)?
Yes ☒ No ☐
Comments:

iii. If above LOQ or RL, what samples are affected?
Comments: Not applicable; target analytes were not detected in the method blank samples.

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: Target analytes were not detected in the method blank samples.

v. Data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: See above.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
Yes ☒ No ☐ N/A ☐
Comments:

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☐ No ☐ N/A ☒
Comments: Metals/Inorganics analyses were not requested with this work order.

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments:

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the RPD reported from LCS/LCSD, and or sample/sample duplicate? (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: Not applicable; method accuracy and precision were demonstrated to be within acceptable limits.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: LCS and LCSD accuracy and precision were within laboratory control limits.

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: See above.

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

i. Organics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☐ No ☒ N/A ☐
Comments: MS/MSDs were not reported in this work order.

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☐ No ☒ N/A ☐
Comments: MS/MSDs were not reported in this work order.

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?
Yes ☐ No ☐ N/A ☒
Comments: See above.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.
Yes ☐ No ☐ N/A ☒
Comments: See above.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: Not applicable; see above.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: See above.

vii. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: Batch precision and accuracy was measured using LCS/LCSD samples. See 6.b. above.

d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC, and laboratory samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: All surrogate recoveries were within laboratory control limits.

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: See above.

e. Trip Blanks

i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☒ No ☐ N/A ☐
Comments:

ii. Are all results less than LOQ or RL?
Yes ☒ No ☐ N/A ☐
Comments:

iii. If above LOQ or RL, what samples are affected?
Comments: Not applicable; target analytes were not detected in the trip blank samples.

iv. Is the data quality or usability affected?
Yes ☐ No ☒ N/A ☐
Comments: See above.

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
Yes ☒ No ☐ N/A ☐
Comments:

ii. Was the duplicate submitted blind to lab?
Yes ☒ No ☐ N/A ☐
Comments: The field duplicate pairs *MW-1R/MW-101R* and *MW-5/MW-105* were submitted with this work order.

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water or air, 50% soil)

$$RPD\ (\%) = \left| \frac{R_1 - R_2}{\left(\frac{R_1 + R_2}{2}\right)} \right| X\ 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Yes ☒ No ☐ N/A ☐
Comments: The relative precision demonstrated for the duplicate pairs was within the project objective of 30% for water, where calculable.

iv. Is the data quality or usability affected? (Explain)
Yes ☐ No ☒ N/A ☐
Comments: See above.

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☒ No ☐ N/A ☐
Comments: The equipment blank sample EB-1R was submitted with this work order.

ii. Are all results less than LOQ or RL?
Yes ☒ No ☐ N/A ☐
Comments:

iii. If above LOQ or RL, specify what samples are affected.
Comments: Not applicable; analytes were not detected in the equipment blank sample.

iv. Are data quality or usability affected?
Yes ☐ No ☒ N/A ☐

Comments: See above.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Are they defined and appropriate?
Yes ☒ No ☐ N/A ☐
Comments: Groundwater quality parameters did not stabilize, and we did not purge three well volumes, before sampling MW-9. The data are considered estimated because they may not represent groundwater in the surrounding formation, and the data are qualified with a “J” flag in the analytical tables.

APPENDIX E: QUALITY ASSURANCE AND QUALITY CONTROL SUMMARY

Appendix E

Quality Assurance and Quality Control Summary

APPENDIX E: QUALITY ASSURANCE AND QUALITY CONTROL SUMMARY

OVERVIEW

QA/QC procedures assist in producing data of acceptable quality and reliability. We reviewed the analytical results for laboratory QC samples and conducted our own QA assessment for this project. We reviewed the COC records and laboratory receipt forms to check that custody was not breached, sample-holding times were met, and that groundwater samples were kept chilled (between 0 °C and 6 °C) during shipping.

Our QA-review procedures allow us to document the accuracy and precision of the analytical data, as well as check that the analyses were sufficiently sensitive to meet project-specific data quality objectives. Laboratory QC procedures included evaluating surrogate recovery, performing continuing calibration checks, analyzing method blanks, and analyzing laboratory control samples (LCS) and LCS duplicate (LCSD) samples to assess accuracy and precision. Surrogate recovery analyses were performed to evaluate the accuracy of the analytical process. Analytical precision was assessed by comparing the results of duplicate analyses performed on LCS/LCSD and field duplicate sample pairs.

QC procedures in the field included using single-use equipment when possible to reduce the potential for sample cross-contamination. Reusable equipment is decontaminated before reuse at a different sample location. We used a new pair of nitrile gloves when sampling at each monitoring well location. We collected an equipment blank with our reusable sampling equipment to assess the effectiveness of our decontamination procedures.

The laboratory report contains a case narrative and forms documenting sample-receipt conditions. Details regarding the results of our QA review are presented below. For additional information, refer to the SGS laboratory report 1225015 in Appendix C and corresponding DEC LDRC in Appendix D.

E.1 SAMPLE HANDLING

We hand-delivered coolers containing groundwater samples to the SGS Fairbanks facility on August 22, 2022. The cooler contained a temperature blank to measure whether samples were kept within an acceptable temperature range. SGS shipped the samples to their Anchorage laboratory to perform analyses by methods specified on the COC records. SGS personnel measured the temperature blank at the time that the samples arrived at their facilities. The temperature blank was within the proper temperature range upon submittal in Fairbanks and arrival in Anchorage.

We delivered the samples to the SGS laboratory with sufficient time to allow them to analyze the samples within the applicable holding-time requirement. We retained a copy of

the COC record to allow sample accountability between field and laboratory. Our review of the COC record and laboratory sample-receipt documents did not identify sample handling anomalies. SGS processed the samples within the appropriate holding time.

E.2 ANALYTICAL SENSITIVITY

The laboratory's LOD is the lowest analyte concentration that can be measured. The laboratory's LOQ is the lowest analyte concentration that can be routinely measured in the sampled matrix with confidence, the point at which a concentration is considered quantitative. Sample matrix, instrument performance, sample dilutions, and other factors may affect the LOD and LOQ. Analytes may be present in samples at concentrations below the LOD. In cases where analytes were not detected at concentrations above their LOD, the analytical results are presented in our data-summary table with reference to their LOD. If the analyte is detected between the LOD and the LOQ, its concentration is considered an estimate; in our tables, this value is flagged with a 'J'. This flag is applied by the laboratory.

We compared groundwater LODs to their respective DEC regulatory levels; LODs were less than DEC-established groundwater cleanup levels (where applicable) except for 1,2,3-trichloropropane in all samples. Groundwater samples *MW-1R* and *MW-101R* were analyzed at a dilution due to high concentrations of analytes. Consequently, the LODs for several non-detect results in these samples were elevated above DEC cleanup levels. We cannot assess if 1,2,3-trichloropropane or other analytes with elevated LODs are present at concentrations less than the LOD but greater than their respective DEC regulatory levels.

To evaluate the potential for cross-contamination between samples or introduction of contamination from an outside source, laboratory-supplied trip blanks are carried with groundwater samples in their cooler during sampling and shipping. Trip blanks were analyzed as part of this sampling event for VOCs. The laboratory reported there were no detections in the trip blanks.

Laboratory method blanks were also analyzed in association with groundwater samples to check for contributions to the analytical results possibly attributable to laboratory-based contamination. There were no detections in the method blank samples.

One groundwater equipment blank was collected to assess the possibility of cross-contamination from sampling equipment. The equipment blank was collected post-decontamination after collecting the project samples. The equipment blank was analyzed by the same test methods as the original sample. There were no detections in the equipment blank sample above the LOD.

E.3 ACCURACY

Accuracy refers to determining the correct analyte concentration and is a comparison between the measured value and a known or expected value. Laboratory analytical accuracy may be assessed through the analyte recoveries from LCS/LCSD analyses and the recovery of analyte surrogates (for organic analytes) added to project samples. The LCS/LCSD are spikes of known analyte concentrations added to a clean matrix. The LCS, LCSD, and surrogate recoveries were within the laboratory's acceptance criteria.

E.4 PRECISION

We collected field-duplicate samples at a frequency of ten percent of the total number of samples to evaluate the precision of analytical measurements and reproducibility of our sampling technique. We collected two groundwater duplicate samples (*MW-1R* and *MW-101R*, *MW-5* and *MW-105*). The field-duplicate samples were submitted "blind" (i.e., the laboratory could not identify it as a duplicate). The duplicates were analyzed by the same test methods as the original sample. To evaluate the precision of the data, we calculated the relative percent difference (RPD), which is the difference between the sample and its duplicate divided by the mean of the two. RPDs can only be evaluated for analytes that are detected in both the sample and its duplicate. The data quality objective is an RPD within 30 percent for water samples. The RPDs were within acceptance criteria in the duplicate pairs, where calculable.

Laboratory analytical precision can also be assessed by comparing the results of duplicate analyses performed on the LCS/LCSD and evaluating the associated RPDs. The laboratory LCS/LCSD sample RPDs were within laboratory acceptance criteria.

E.5 DATA QUALITY SUMMARY

By conducting our field activities in general accordance with our standard QA/QC procedures, we consider the samples we collected to be representative of site conditions at the locations and times they were obtained. Based on our QA review, no datum was rejected as unusable due to QC failures, and our completeness goal of obtaining 85-percent useable data was met. In our opinion, the data produced by the SGS laboratory for this project are suitable for characterizing groundwater at the locations sampled.

APPENDIX F: CONCEPTUAL SITE MODEL

Appendix F

Conceptual Site Model

CONTENTS

Print Form

Appendix A - Human Health Conceptual Site Model Scoping Form and Standardized Graphic

Site Name: Bentley Mall East Satellite

File Number: 102.38.122

Completed by: Dana Fjare; Shannon & Wilson, Inc.

Introduction

The form should be used to reach agreement with the Alaska Department of Environmental Conservation (DEC) about which exposure pathways should be further investigated during site characterization. From this information, summary text about the CSM and a graphic depicting exposure pathways should be submitted with the site characterization work plan and updated as needed in later reports.

General Instructions: Follow the italicized instructions in each section below.

1. General Information:

Sources *(check potential sources at the site)*

- ☐ USTs
- ☐ ASTs
- ☐ Dispensers/fuel loading racks
- ☐ Drums
- ☐ Vehicles
- ☐ Landfills
- ☐ Transformers
- ☒ Other: Dry cleaning waste disposal

Release Mechanisms *(check potential release mechanisms at the site)*

- ☐ Spills
- ☐ Leaks
- ☐ Direct discharge
- ☐ Burning
- ☒ Other: Undocumented releases

Impacted Media *(check potentially-impacted media at the site)*

- ☒ Surface soil (0-2 feet bgs*)
- ☒ Subsurface soil (>2 feet bgs)
- ☒ Air
- ☐ Sediment
- ☒ Groundwater
- ☐ Surface water
- ☐ Biota
- ☐ Other:

Receptors *(check receptors that could be affected by contamination at the site)*

- ☒ Residents (adult or child)
- ☒ Commercial or industrial worker
- ☒ Construction worker
- ☐ Subsistence harvester (i.e. gathers wild foods)
- ☐ Subsistence consumer (i.e. eats wild foods)
- ☒ Site visitor
- ☒ Trespasser
- ☐ Recreational user
- ☐ Farmer
- ☐ Other:

* bgs - below ground surface

2. Exposure Pathways: *(The answers to the following questions will identify complete exposure pathways at the site. Check each box where the answer to the question is "yes".)*

a) Direct Contact -

1. Incidental Soil Ingestion

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site-specific basis.) ☒

If the box is checked, label this pathway complete: Complete

Comments:

2. Dermal Absorption of Contaminants from Soil

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site specific basis.) ☒

Can the soil contaminants permeate the skin (see Appendix B in the guidance document)? ☐

If both boxes are checked, label this pathway complete: Incomplete

Comments:

PCE and its derivatives are not listed in Appendix B as contaminants that can permeate the skin.

b) Ingestion -

1. Ingestion of Groundwater

Have contaminants been detected or are they expected to be detected in the groundwater, or are contaminants expected to migrate to groundwater in the future? ☒

Could the potentially affected groundwater be used as a current or future drinking water source? Please note, only leave the box unchecked if DEC has determined the groundwater is not a currently or reasonably expected future source of drinking water according to 18 AAC 75.350. ☒

If both boxes are checked, label this pathway complete: Complete

Comments:

The area is currently serviced by the municipal water supply; however, this pathway is marked "complete" to account for unknown wells, likely for garden use, that may be present in the area.

2. Ingestion of Surface Water

Have contaminants been detected or are they expected to be detected in surface water, or are contaminants expected to migrate to surface water in the future? ☐

Could potentially affected surface water bodies be used, currently or in the future, as a drinking water source? Consider both public water systems and private use (i.e., during residential, recreational or subsistence activities). ☐

If both boxes are checked, label this pathway complete: Incomplete

Comments:

Surface water near the site has not been tested; however, we do not expect PCE in groundwater to migrate to surface water.

3. Ingestion of Wild and Farmed Foods

Is the site in an area that is used or reasonably could be used for hunting, fishing, or harvesting of wild or farmed foods? ☐

Do the site contaminants have the potential to bioaccumulate (see Appendix C in the guidance document)? ☐

Are site contaminants located where they would have the potential to be taken up into biota? (i.e. soil within the root zone for plants or burrowing depth for animals, in groundwater that could be connected to surface water, etc.) ☐

If all of the boxes are checked, label this pathway complete: Incomplete

Comments:

The site is in an urban area.

c) Inhalation-

1. Inhalation of Outdoor Air

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site specific basis.) ☒

Are the contaminants in soil volatile (see Appendix D in the guidance document)? ☒

If both boxes are checked, label this pathway complete: Complete

Comments:

Contaminants in the soil could be brought to the surface during future construction activities, potentially impacting outdoor air.

2. Inhalation of Indoor Air

Are occupied buildings on the site or reasonably expected to be occupied or placed on the site in an area that could be affected by contaminant vapors? (within 30 horizontal or vertical feet of petroleum contaminated soil or groundwater; within 100 feet of non-petroleum contaminted soil or groundwater; or subject to "preferential pathways," which promote easy airflow like utility conduits or rock fractures) ☒

Are volatile compounds present in soil or groundwater (see Appendix D in the guidance document)? ☒

If both boxes are checked, label this pathway complete: Complete

Comments:

Inhalation of indoor air presents an insignificant risk at present, in the residences where we collected indoor air samples. However, we do not know if contaminants in groundwater are increasing, which could pose a greater vapor intrusion risk to commercial businesses and residences in the project area.

3. **Additional Exposure Pathways:** *(Although there are no definitive questions provided in this section, these exposure pathways should also be considered at each site. Use the guidelines provided below to determine if further evaluation of each pathway is warranted.)*

Dermal Exposure to Contaminants in Groundwater and Surface Water

Dermal exposure to contaminants in groundwater and surface water may be a complete pathway if:

- Climate permits recreational use of waters for swimming.
- Climate permits exposure to groundwater during activities, such as construction.
- Groundwater or surface water is used for household purposes, such as bathing or cleaning.

Generally, DEC groundwater cleanup levels in 18 AAC 75, Table C, are deemed protective of this pathway because dermal absorption is incorporated into the groundwater exposure equation for residential uses.

Check the box if further evaluation of this pathway is needed: ☒

Comments:

Future construction activities may expose workers to contaminants in groundwater. In addition, there is a possibility of in-use residential wells in the area.

Inhalation of Volatile Compounds in Tap Water

Inhalation of volatile compounds in tap water may be a complete pathway if:

- The contaminated water is used for indoor household purposes such as showering, laundering, and dish washing.
- The contaminants of concern are volatile (common volatile contaminants are listed in Appendix D in the guidance document.)

DEC groundwater cleanup levels in 18 AAC 75, Table C are protective of this pathway because the inhalation of vapors during normal household activities is incorporated into the groundwater exposure equation.

Check the box if further evaluation of this pathway is needed: ☒

Comments:

PCE and other volatile contaminants are present in exceedance of DEC cleanup levels in groundwater samples collected from monitoring wells at the source area and down gradient (west) of the BMES property. Residents in the area are connected with municipal water supply; however, there may be old residential water wells still in-use, though they are likely not for drinking-water. In addition, the groundwater below the site is a future drinking water source.

Inhalation of Fugitive Dust

Inhalation of fugitive dust may be a complete pathway if:

- Nonvolatile compounds are found in the top 2 centimeters of soil. The top 2 centimeters of soil are likely to be dispersed in the wind as dust particles.
- Dust particles are less than 10 micrometers (Particulate Matter - PM_{10}). Particles of this size are called respirable particles and can reach the pulmonary parts of the lungs when inhaled.

DEC human health soil cleanup levels in Table B1 of 18 AAC 75 are protective of this pathway because the inhalation of particulates is incorporated into the soil exposure equation.

Check the box if further evaluation of this pathway is needed: ☐

Comments:

Direct Contact with Sediment

This pathway involves people's hands being exposed to sediment, such as during some recreational, subsistence, or industrial activity. People then incidentally ingest sediment from normal hand-to-mouth activities. In addition, dermal absorption of contaminants may be of concern if the the contaminants are able to permeate the skin (see Appendix B in the guidance document). This type of exposure should be investigated if:

- Climate permits recreational activities around sediment.
- The community has identified subsistence or recreational activities that would result in exposure to the sediment, such as clam digging.

Generally, DEC direct contact soil cleanup levels in 18 AAC 75, Table B1, are assumed to be protective of direct contact with sediment.

Check the box if further evaluation of this pathway is needed: ☐

Comments:

4. Other Comments *(Provide other comments as necessary to support the information provided in this form.)*

HUMAN HEALTH CONCEPTUAL SITE MODEL GRAPHIC FORM

Site: Bentley Mall East Satellite

Completed By: Dana Fjare; Shannon & Wilson, Inc.

Date Completed: November 2021

***Instructions*: Follow the numbered directions below. Do not consider contaminant concentrations or engineering/land use controls when describing pathways.**

(1)

Check the media that could be directly affected by the release.

(2)

For each medium identified in (1), follow the top arrow and check possible transport mechanisms. Check additional media under (1) if the media acts as a secondary source.

Media / Transport Mechanisms

Surface Soil (0-2 ft bgs) — ☑
- Direct release to surface soil → check soil
- ☑ Migration to subsurface → check soil
- ☑ Migration to groundwater → check groundwater
- ☑ Volatilization → check air
- ☐ Runoff or erosion → check surface water
- ☐ Uptake by plants or animals → check biota
- ☐ Other (list):

Subsurface Soil (2-15 ft bgs) — ☑
- Direct release to subsurface soil → check soil
- ☑ Migration to groundwater → check groundwater
- ☑ Volatilization → check air
- ☐ Uptake by plants or animals → check biota
- ☐ Other (list):

Ground-water — ☑
- Direct release to groundwater → check groundwater
- ☑ Volatilization → check air
- ☐ Flow to surface water body → check surface water
- ☐ Flow to sediment → check sediment
- ☐ Uptake by plants or animals → check biota
- ☐ Other (list):

Surface Water — ☐
- Direct release to surface water → check surface water
- ☐ Volatilization → check air
- ☐ Sedimentation → check sediment
- ☐ Uptake by plants or animals → check biota
- ☐ Other (list):

Sediment — ☐
- Direct release to sediment → check sediment
- ☐ Resuspension, runoff, or erosion → check surface water
- ☐ Uptake by plants or animals → check biota
- ☐ Other (list):

(3)

Check all exposure media identified in (2).

(4)

*Check all pathways that could be complete. The pathways identified in this column **must** agree with Sections 2 and 3 of the Human Health CSM Scoping Form.*

(5)

Identify the receptors potentially affected by each exposure pathway: Enter "C" for current receptors, "F" for future receptors, "C/F" for both current and future receptors, or "I" for insignificant exposure.

Exposure Media / Exposure Pathway/Route / Current & Future Receptors

Exposure Media	Exposure Pathway/Route	Residents (adults or children)	Commercial or industrial workers	Site visitors, trespassers, or recreational users	Construction workers	Farmers or subsistence harvesters	Subsistence consumers	Other
☑ soil	☑ Incidental Soil Ingestion	F	F	F	F			
	☐ Dermal Absorption of Contaminants from Soil							
	☐ Inhalation of Fugitive Dust							
☑ groundwater	☑ Ingestion of Groundwater	C/F	F	F	F			
	☑ Dermal Absorption of Contaminants in Groundwater	C/F	F	F	F			
	☑ Inhalation of Volatile Compounds in Tap Water	C/F						
☑ air	☑ Inhalation of Outdoor Air	F	F	F	F			
	☑ Inhalation of Indoor Air	I/F	I/F	I/F	I/F			
	☐ Inhalation of Fugitive Dust							
☐ surface water	☐ Ingestion of Surface Water							
	☐ Dermal Absorption of Contaminants in Surface Water							
	☐ Inhalation of Volatile Compounds in Tap Water							
☐ sediment	☐ Direct Contact with Sediment							
☐ biota	☐ Ingestion of Wild or Farmed Foods							

Revised, 10/01/2010

IMPORTANT INFORMATION

Important Information

About Your Environmental Report

IMPORTANT INFORMATION

CONSULTING SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES AND FOR SPECIFIC CLIENTS.

Consultants prepare reports to meet the specific needs of specific individuals. A report prepared for a civil engineer may not be adequate for a construction contractor or even another civil engineer. Unless indicated otherwise, your consultant prepared your report expressly for you and expressly for the purposes you indicated. No one other than you should apply this report for its intended purpose without first conferring with the consultant. No party should apply this report for any purpose other than that originally contemplated without first conferring with the consultant.

THE CONSULTANT'S REPORT IS BASED ON PROJECT-SPECIFIC FACTORS.

A geotechnical/environmental report is based on a subsurface exploration plan designed to consider a unique set of project-specific factors. Depending on the project, these may include the general nature of the structure and property involved; its size and configuration; its historical use and practice; the location of the structure on the site and its orientation; other improvements such as access roads, parking lots, and underground utilities; and the additional risk created by scope-of-service limitations imposed by the client. To help avoid costly problems, ask the consultant to evaluate how any factors that change subsequent to the date of the report may affect the recommendations. Unless your consultant indicates otherwise, your report should not be used (1) when the nature of the proposed project is changed (for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one, or chemicals are discovered on or near the site); (2) when the size, elevation, or configuration of the proposed project is altered; (3) when the location or orientation of the proposed project is modified; (4) when there is a change of ownership; or (5) for application to an adjacent site. Consultants cannot accept responsibility for problems that may occur if they are not consulted after factors that were considered in the development of the report have changed.

SUBSURFACE CONDITIONS CAN CHANGE.

Subsurface conditions may be affected as a result of natural processes or human activity. Because a geotechnical/environmental report is based on conditions that existed at the time of subsurface exploration, construction decisions should not be based on a report whose adequacy may have been affected by time. Ask the consultant to advise if additional tests are desirable before construction starts; for example, groundwater conditions commonly vary seasonally.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes, or groundwater fluctuations may also affect subsurface conditions and, thus, the continuing adequacy of a geotechnical/environmental report. The consultant should be kept apprised of any such events and should be consulted to determine if additional tests are necessary.

MOST RECOMMENDATIONS ARE PROFESSIONAL JUDGMENTS.

Site exploration and testing identifies actual surface and subsurface conditions only at those points where samples are taken. The data were extrapolated by your consultant, who then applied judgment to render an opinion about overall subsurface conditions. The actual interface between materials may be far more gradual or abrupt than your report indicates. Actual conditions in areas not sampled may differ from those predicted in your report. While nothing can be done to prevent such situations, you and your consultant can work together to help reduce their impacts. Retaining

IMPORTANT INFORMATION

your consultant to observe subsurface construction operations can be particularly beneficial in this respect.

A REPORT'S CONCLUSIONS ARE PRELIMINARY.

The conclusions contained in your consultant's report are preliminary, because they must be based on the assumption that conditions revealed through selective exploratory sampling are indicative of actual conditions throughout a site. Actual subsurface conditions can be discerned only during earthwork; therefore, you should retain your consultant to observe actual conditions and to provide conclusions. Only the consultant who prepared the report is fully familiar with the background information needed to determine whether or not the report's recommendations based on those conclusions are valid and whether or not the contractor is abiding by applicable recommendations. The consultant who developed your report cannot assume responsibility or liability for the adequacy of the report's recommendations if another party is retained to observe construction.

THE CONSULTANT'S REPORT IS SUBJECT TO MISINTERPRETATION.

Costly problems can occur when other design professionals develop their plans based on misinterpretation of a geotechnical/environmental report. To help avoid these problems, the consultant should be retained to work with other project design professionals to explain relevant geotechnical, geological, hydrogeological, and environmental findings, and to review the adequacy of their plans and specifications relative to these issues.

BORING LOGS AND/OR MONITORING WELL DATA SHOULD NOT BE SEPARATED FROM THE REPORT.

Final boring logs developed by the consultant are based upon interpretation of field logs (assembled by site personnel), field test results, and laboratory and/or office evaluation of field samples and data. Only final boring logs and data are customarily included in geotechnical/environmental reports. These final logs should not, under any circumstances, be redrawn for inclusion in architectural or other design drawings, because drafters may commit errors or omissions in the transfer process.

To reduce the likelihood of boring log or monitoring well misinterpretation, contractors should be given ready access to the complete geotechnical engineering/environmental report prepared or authorized for their use. If access is provided only to the report prepared for you, you should advise contractors of the report's limitations, assuming that a contractor was not one of the specific persons for whom the report was prepared, and that developing construction cost estimates was not one of the specific purposes for which it was prepared. While a contractor may gain important knowledge from a report prepared for another party, the contractor should discuss the report with your consultant and perform the additional or alternative work believed necessary to obtain the data specifically appropriate for construction cost estimating purposes. Some clients hold the mistaken impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing the best available information to contractors helps prevent costly construction problems and the adversarial attitudes that aggravate them to a disproportionate scale.

READ RESPONSIBILITY CLAUSES CLOSELY.

Because geotechnical/environmental engineering is based extensively on judgment and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims

being lodged against consultants. To help prevent this problem, consultants have developed a number of clauses for use in their contracts, reports, and other documents. These responsibility clauses are not exculpatory clauses designed to transfer the consultant's liabilities to other parties; rather, they are definitive clauses that identify where the consultant's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

The preceding paragraphs are based on information provided by the ASFE/Association of Engineering Firms Practicing in the Geosciences, Silver Spring, Maryland