Q2 2023 Sampling Event Data Gap Monitoring Well No. WUABFFMW01

Kirtland Air Force Base Bulk Fuels Facility
Albuquerque, New Mexico

Prepared for:

Albuquerque Bernalillo County Water Utility Authority
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Acronyms and Abbreviations

°C	degrees Celsius
°F	degrees Fahrenheit
µg/L	micrograms per liter
µS/cm	microSiemens per centimeter
AES	Advanced Environmental Solutions
ASTM	ASTM International
BFF	Bulk Fuels Facility
bgs	below ground surface
btoc	below top of casing
DMPDB	dual membrane passive diffusion sampler (also abbreviated DMB or DMS)
DI	deionized water
DL	detection limit
DOD	Department of Defense
DOE	Department of Energy
EA	EA Engineering, Science, and Technology, Inc., PBC
EDB	1,2-dibromoethane, aka ethylene dibromide
ELAP	Environmental Laboratory Accreditation Program
EPA	Environmental Protection Agency
Eurofins	Eurofins Lancaster Laboratories Environment Testing, LLC
ft	foot/feet
gal	gallon(s)
gpm	gallons per minute
INTERA	INTERA Incorporated
KAFB	Kirtland Air Force Base
LF	low-flow purge sampling method
LNAPL	light non-aqueous phase liquid
LOD	limit of detection
LOQ	limit of quantitation
LTM	long-term monitoring
MCLs	Maximum Contaminant Levels
NAVD88	North American Vertical Datum of 1988
NMED	New Mexico Environment Department
NMWQCC	New Mexico Water Quality Control Commission
NTUs	nephelometric turbidity units
ORP	oxidation-reduction potential
PAHs	polycyclic aromatic hydrocarbons

PDB	passive diffusion bag
QSM	*Department of Defense (DOD) Department of Energy (DOE) Consolidated Quality Systems Manual (QSM) for Environmental Laboratories*
Site	Data Gap Well No. WUABFFMW01
SSHASP	Site-Specific Health and Safety Plan
SOP	standard operating procedure
SVOCs	semi-volatile organic compounds
VOCs	volatile organic compounds
Water Authority	Albuquerque Bernalillo County Water Utility Authority
Work Plan/SAP	Work Plan and Sampling Analysis Plan

1 Introduction

INTERA Incorporated (INTERA), under contract with the Albuquerque Bernalillo County Water Utility Authority (Water Authority) and in accordance with the *Work Plan/Sampling Analysis Plan for Data Gap Monitoring Well Installation Well No. WUABFFMW01* (Work Plan/SAP) dated January 6, 2022 and revised March 2023, is submitting this *Q2 2023 Sampling Event Report*. This report documents activities associated with the Quarter 2 (Q2) 2023 sampling event to determine the presence/absence of EDB and other fuel contaminants conducted in May 2023 at Water Authority Data Gap Monitoring Well No. WUABFFMW01 (WUABFFMW01), located at 800 Indiana Street SE, Albuquerque, New Mexico (Site).

1.1 Background

WUABFFMW01 was installed at the Site in 2022 to investigate the distal end of the ethylene dibromide (EDB) groundwater plume emanating from the Kirtland Air Force Base (KAFB) Bulk Fuels Facility (BFF) jet fuel leak. The KAFB BFF leak was reportedly discovered in 1999 and has subsequently been investigated and monitored by the United States Air Force and their contractors, including EA Engineering, Science, and Technology, Inc., PBC (EA) and others, via a network of monitoring wells within KAFB and in Albuquerque neighborhoods to the north of KAFB. Groundwater underlying KAFB is impacted with benzene, toluene, ethylbenzene, and xylenes (BTEX), EDB, and light non-aqueous phase liquid (LNAPL). The EDB groundwater plume extends more than 6,000 ft from the source north into the neighborhoods, and although interim measure extraction wells have been implemented, until the EDB plume is fully remediated it continues to pose a risk to Water Authority production wells. Thus, characterization of the distal end of the EDB plume by filling any data gaps in the monitoring well network is important to ensure that the network is sufficient to serve as an early warning system for downgradient Water Authority production wells.

Field construction activities for WUABFFMW01 were initiated on January 24, 2022 and were completed on April 14, 2022. The well is screened between 572 feet to 592 feet below ground surface (bgs) to monitor a potential deep contaminant migration pathway; for comparison, the depth to water at the time of well completion was 453 feet bgs. Groundwater sampling of WUABFFMW01 began in May 2022 and has continued to present on a quarterly basis using one or both of these sampling methods each event:

1. passive sampling using passive diffusion bag (PDB) samplers for analysis of volatile organic compound (VOC) constituents and dual membrane passive diffusion (DMPDB) samplers for analysis of non-VOC constituents, and
2. low-flow purge sampling (LF) using a dedicated Bennett Pump to purge three saturated well-casing volumes at a flow rate low enough to avoid turbulent flow and minimize drawdown and then to collect samples for analysis of both VOC and non-VOC constituents.

Water levels are manually gauged using an oil/water interface probe during sampling events and certain other field activities at the well. A pressure transducer and data logger were installed in WUABFFMW01 in July 2022 to record hourly water levels between sampling events. The transducer is removed for three weeks each quarter while PDB and DMPDB samplers are deployed and during PDB or LF sampling. The

transducer is replaced following sample collection and reprogrammed to the current water level after the completion of sampling activities.

In accordance with the March 2023 SAP revisions, samples are submitted to Eurofins Lancaster Laboratories Environment Testing, LLC (Eurofins), and laboratory analyses are reported according to Department of Defense (DOD)/Department of Energy (DOE) Consolidated Quality Systems Manual (QSM) for Environmental Laboratories, version 5.4, dated 2021. Use of the QSM protocol is intended to provide maximum comparability with results from the KAFB monitoring program. The laboratory quantitation and detection limits under the QSM protocol differ somewhat from the default Eurofins protocol under which results were reported for previous quarterly monitoring events through December 2022. The QSM limits include, from highest to lowest, a limit of quantitation (LOQ), and limit of detection (LOD), and a detection limit (DL). The LOQ is essentially equivalent to the default protocol's reporting limit, and the DL is essentially equivalent to the default protocol's method detection limit. The difference is that under the QSM protocol, non-detections are reported as being less than the LOD as opposed to less than a method detection limit. Detected concentrations below the LOQ that are greater than or equal to the DL are reported as estimated quantities, the same as with the default protocol.

1.2 Scope of Work

The SAP portion of the Work Plan/SAP outlines the sampling procedures that INTERA followed for all groundwater sampling activities at WUABFFMW01. The Work Plan/SAP includes a Site-Specific Health and Safety Plan (SSHASP) as an attachment. The scope of work for the groundwater sampling for the presence/absence of EDB and other fuel contaminants event conducted in Q2 2023 reported herein included the following tasks:

- Notify the Water Authority of sampling schedule and coordinate with EA and/or Air Force representatives upon split-sample request.
- Measure fluid levels at WUABFFMW01 using a properly decontaminated oil/water interface probe, download transducer data before sampling, and program and redeploy transducer after sampling.
- Perform passive and LF purge sampling while measuring groundwater quality field parameters (temperature, specific conductivity, pH, oxidation-reduction potential [ORP], and turbidity) during purging for stabilization using a calibrated YSI Pro Plus water quality meter and a turbidity meter. Collect groundwater samples at WUABFFMW01 and submit samples for the following laboratory analyses:
  - Ethylene dibromide (EDB) via EPA Method 8011
  - Volatile Organic Compounds (VOCs) via EPA Method 8260
  - Semi-Volatile Organic Compounds (SVOCs) via EPA Method 8270
  - Metals via EPA Method 6010
  - Anions via EPA Method E300.0
  - Alkalinity via Standard Method SM2320B

- Decontaminate all reusable sampling equipment using Liquinox® (or equivalent) soap and rinse twice with deionized (DI) water. This includes decontamination of the Bennett pump and tubing onsite prior to use for sampling and using lab-grade ASTM Type II reagent water (a high-purity specification for DI water) for the final rinse before sampling.
- Collect QA/QC samples including an equipment rinsate sample from the final decontamination rinse and a field blank during collection of the groundwater sample for VOCs. Submit QA/QC samples for laboratory analysis of VOCs.
- Transport purge water off-Site for disposal at the Advanced Environmental Solutions (AES) facility in Belen, New Mexico.

1.3 Work Plan Deviations

The following work plan/SAP deviations this quarter are noted below:

- Eurofins reported dissolved metals by EPA Method 6020 and nitrate and nitrite by EPA Method 353.2. In INTERA's experience, these methods are comparable to EPA Methods 6010 and 300.0, respectively, i.e., differences are typically small and random.

2 Field Activities

Field activities for this groundwater sampling event at WUABFFMW01 were conducted on May 5 and May 31, 2023. A copy of the field notes and groundwater sampling forms are included in **Appendix A.** The SSHASP was reviewed in detail and used as a guide for daily health and safety meetings. All field activities were performed in accordance with the procedures stated in the Water Authority-approved Work Plan/SAP.

2.1 Fluid Level Monitoring

A dedicated pressure transducer (In-Situ Level TROLL 700, 300 psi, with vented, twist-lock cable) was installed on March 31, 2023 in WUABFFMW01 following the Q1 2023 sampling event and set to record water levels hourly. INTERA downloaded the data from the transducer prior to PDB/DMPDB deployment on May 5, 2023, and will be submitted as an electronic file to the Water Authority with this report.

Depth to groundwater was gauged on May 5, 2023, prior to PDB/DMPDB deployment and again on May 31, 2023, prior to the LF purge sampling event. LNAPL was not anticipated to be present in WUABFFMW01, but an electronic oil-water interface probe was used to confirm it was not present at the water surface prior to the sampling event. Upon retraction, the well gauging tape was thoroughly decontaminated per the Work Plan/SAP. Fluid level measurements were recorded in the field forms and notes included in **Appendix A.**

The pressure transducer was reset following LF purge sampling on May 31, 2023.

2.2 Groundwater Sampling

INTERA collected passive and LF groundwater samples from WUABFFMW01 on May 31, 2023. Sampling methods are discussed in further detail in Sections 2.2.1 and 2.2.2. All purge, water quality, and sample collection data were recorded on a field form, a copy of which is provided in **Appendix A.** The samples were submitted to Eurofins Lancaster Laboratories Environment Testing, LLC (Eurofins), 2425 New Holland Pike, Lancaster, Pennsylvania (Environmental Laboratory Accreditation Program [ELAP] Certificate No. 36-00037, State of Pennsylvania) for the analyses listed in Section 1.2. The laboratory report is included in **Appendix B.** Purge water was containerized in a 275-gallon tote and transported by INTERA to the AES facility in Belen, New Mexico for disposal. A copy of the waste manifest is provided in **Appendix C.**

2.2.1 Passive Diffusion Bag and Dual Membrane Bag Passive Diffusion Sampling

PDBs, DMPDBs, and accessories were ordered from Eon Products prior to the sampling event. The tethered line of PDB and DMPDB samplers were deployed on May 5, 2023. The samplers were set in the screened interval from approximately 572 to 592 ft bgs and left in the well for a minimum of 3 weeks. The depths of the tops of each sampler and the specific laboratory analyses performed with water from each sampler are listed on the form in **Appendix A.** The PDB and DMPDB samplers were retrieved on

May 31, 2023, samples were collected for the Water Authority and split with EA, and groundwater quality field parameters were measured using a YSI Pro Plus water quality meter and a Hach 2100Q turbidity meter. EDB and VOCs samples for the Water Authority were collected from the PDB sampler that had been placed with the top at 586 ft below top of casing (btoc). Per EA's request, their split sample was obtained from the DMPDB sampler with the top at 583 ft btoc. The Water Authority samples for all other analytes were from the shallower DMPDB samplers.

2.2.2 Low-Flow Purge Bennett Pump Sampling

WUABFFMW01 was sampled using the LF purge method on May 31, 2023 following passive sampling and decontamination of the Bennett pump and tubing. During the event, the Bennett pump was placed in the center of the well screen, and the flow rate was maintained at 1.0 to 1.1 gallon per minute (gpm), which is sufficiently low to maintain laminar flow in a 3-inch well.

During purging, groundwater quality field parameters (temperature, specific conductivity, pH, ORP, and turbidity) were monitored for stabilization using a YSI Pro Plus water quality meter and a Hach 2100Q turbidity meter. Purging was considered complete when WUABFFMW01 had been purged a minimum of three saturated well-casing volumes and the field parameters had stabilized. Stability was defined as a minimum of three consecutive measurements within 10 percent (%) of each other for temperature and specific conductivity, within 0.5 standard units for pH, within 10 millivolts (mV) for ORP, and either below 10 nephelometric turbidity units (NTUs) or within 10% of each other for turbidity.

After at least 166 gallons had been purged, the LF sample was collected from WUABFFMW01 and split with EA (field parameters stabilized and purging continued beyond the minimum three casing volumes; a total of 220 gallons was purged by the end of sampling).

2.3 QA/QC Samples

QA/QC samples were collected on May 31, 2023 during the sampling event using the same VOCs containers and preservatives as for the primary samples and submitted to Eurofins for analysis of VOCs by EPA Method 8260. The QA/QC samples were filled using ASTM Type II reagent water (lab-grade DI water). The complete laboratory report is included in **Appendix B.**

An equipment rinsate (blank) sample designated EQPT_BLANK_05312023 was collected from the final Bennett pump decontamination rinse before lowering the pump downhole for purging and LF groundwater sample collection. The Bennett pump and tubing were decontaminated by placing the pump in a PVC decontamination vessel and circulating Liquinox® and water through the tubing for one cycle, DI water only for a first rinse, and lab-grade DI water for the final rinse.

A field blank designated FIELD_BLANK_05312023 was collected by filling sample vials with lab-grade DI water and leaving them open to the atmosphere during collection of the primary LF groundwater sample.

3 Results and Discussion

This section presents the results of the Q2 2023 groundwater sampling event at WUABFFMW01 conducted on May 5 and May 31, 2023. **Figure 1** presents water levels collected through the current quarter. **Table 1, Table 2,** and **Table 3** summarize water quality data from field measurements and laboratory analyses of groundwater and QA/QC samples. A copy of the field notes and groundwater sampling forms are included in **Appendix A.** The complete laboratory report is included in **Appendix B.**

3.1 Fluid Level Monitoring

Depth to groundwater was measured on May 5, 2023 before deploying the PDB/DMPDB samplers and was 450.93 ft btoc, equal to an elevation of 4,877.61 ft on the North American Vertical Datum of 1988 (NAVD88). A groundwater level measurement was also collected on May 31, 2023, prior to the Bennett pump sampling event, and depth to groundwater was 450.99 ft btoc, equal to an elevation of 4,877.55 ft NAVD88. LNAPL of measurable thickness (greater than 0.01 ft) was not observed.

Figure 1 presents water levels collected with the transducer as well as manual measurements through Q2 2023. Diurnal and seasonal variations are evident—groundwater elevations decreased from May 2022 to October 2022, increased from October 2022 through May 2023, and ended 1.9 ft higher than measured after well completion in May 2022.

3.2 Field Parameters and Laboratory Analytical Results

Groundwater quality parameters (temperature, conductivity, pH, ORP, and turbidity) recorded from the PDB/DMPDB samplers and during well purging on May 31, 2023 are provided in the groundwater sampling forms in **Appendix A,** and stabilized/final groundwater quality parameters are summarized in **Table 1.** Results of laboratory analyses of the passive and LF groundwater samples collected May 31, 2023 are summarized in **Table 2,** QA/QC sample results are summarized in **Table 3,** and the complete laboratory report is included in **Appendix B.**

EDB and BTEX compounds were not detected in the passive or LF purge groundwater samples or the QA/QC samples above their respective LODs.

The LF purge groundwater sample analyzed by EPA Method 8260D did not detect any VOCs. The passive (PDB) groundwater sample collected from data gap well WUABFFMW01 identified a low, estimated concentration of acetone at 4.6J µg/L, which is not likely representative of the aquifer environment. The "J" qualifier means that the concentration identified is estimated (the result is less than the LOQ but greater than or equal to the DL used by the laboratory). Analytical uncertainty and the role of random error increase at levels below the LOQ. The low acetone concentration estimated in the passive sample was not corroborated by the LF purge sample result, but comparable levels of acetone were reported for the field blank (5.0J µg/L) and equipment rinsate samples (2.0J µg/L). Acetone is a common laboratory contaminant and is also a common solvent in numerous consumer products and other products that may be present in an urban environment. Given the concentrations of acetone detected in

the QA/QC samples, the detection reported for the passive groundwater sample is likely due to acetone in the ambient air during sampling and/or laboratory contamination.

Acetone and chloroform were the only compounds detected in any of the QA/QC samples collected for this event (**Table 3**). Chloroform is a common disinfection byproduct of water treatment. The low detection of chloroform in the field blank is likely attributable to the lab-grade DI water used for QA/QC samples, the ambient air during sampling, and/or laboratory contamination. Chloroform was not detected in either of the passive or LF purge groundwater samples and therefore did not affect the primary sample results.

SVOCs were not detected in the passive or LF purge groundwater samples or the QA/QC samples above their respective LODs.

Anions and metals or other cations detected above DLs in the passive of LF purge groundwater samples included chloride, sulfate, total alkalinity, total arsenic, calcium, magnesium, potassium, sodium, dissolved iron, and dissolved manganese and are presented in **Table 2.**

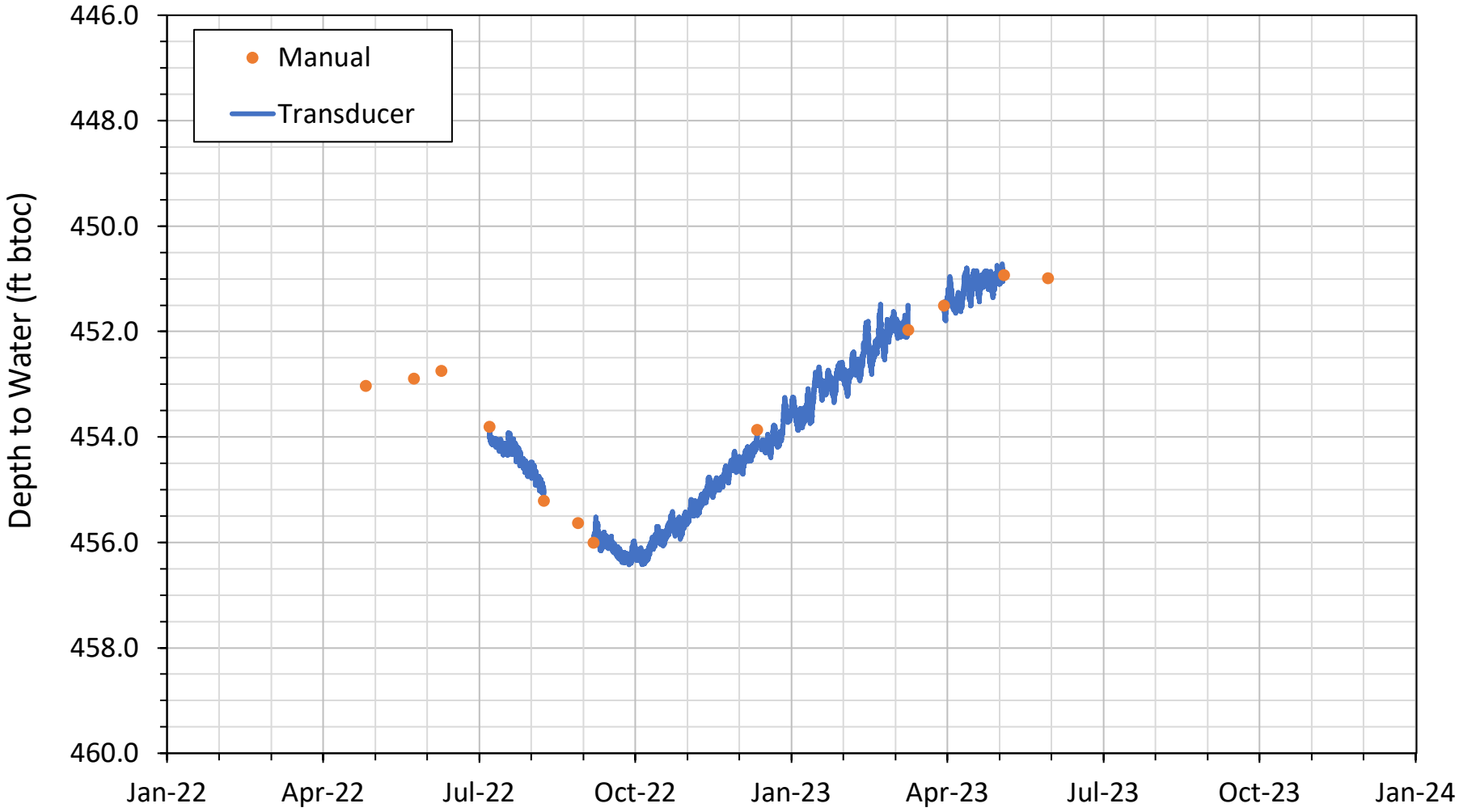
4 Summary and Recommendations

The contaminant of greatest concern, EDB, has not been detected in samples collected from WUABFFMW01 to date. The groundwater samples collected during the Q2 2023 sampling event did not detect any BTEX compounds. Detections of other organic compounds (acetone and chloroform) during this event are not considered representative of the aquifer environment for reasons explained in Section 3.2. Several inorganic analytes were detected; none of the inorganic concentrations identified were unusual.

The laboratory analytical results were compared to their respective screening levels used by KAFB for the BFF site, which are based on EPA Maximum Contaminant Levels (MCLs) and New Mexico Water Quality Control Commission (NMWQCC) standards, and no exceedances were identified.

INTERA recommends continued sampling of WUABFFMW01 for EDB and other fuel contaminants on a quarterly basis. This recommendation aligns with the sampling frequency followed by the Air Force, thus allowing for consistent and reliable data comparison across the BFF groundwater monitoring well network, thus allowing for consistent and reliable data comparison across the BFF groundwater monitoring well network.

Figures



Notes:
ft btoc = feet below top of casing
Added 0.99 ft to transducer depths to water from 7/8/22 to 8/9/22 to correct raw dataset that began recording before transducer had fully equilibrated.

Figure 1
Depth to Water, Data Gap Well WUABBFMW01
2023 Q2 Quarterly Monitoring Report
Albuquerque Bernalillo County Water Utility Authority

INTERA

S:\ABQ\ABWUA.C009.KAFB\Data_Gap_Well\Task 10 LTGWM\DTW_plots.xlsx

Tables

TABLE 1
Groundwater Quality Field Parameters

Quarterly Groundwater Monitoring Report for Data Gap Well WUABFFMW01
ABCWUA
Kirtland Air Force Base Bulk Fuels Facility
Albuquerque, New Mexico

Well ID	Date	Temperature		Specific Conductivity (µS/cm)	pH	ORP (mV)	Turbidity (NTU)
		°C	°F				
WUABFFMW01	5/31/2023*	20.2	68.4	228.5	7.42	165.8	1.13
	5/31/2023**	19.6	67.3	232.0	8.34	67.6	0.74

Notes:

*Passive Diffusion Bag Sampling Event

**Bennett Pump Low-Flow Purge Sampling Event

°C = degrees Celsius.

°F = degrees Fahrenheit.

µS/cm = microSiemens per centimeter.

mV = millivolts

NTU = Nephelometric Turbidity Unit

ORP = Oxidation-Reduction Potential

TABLE 2
Laboratory Analytical Results - Groundwater
Quarterly Groundwater Monitoring Report for Data Gap Well WUABFFMW01
ABCWUA
Kirtland Air Force Base Bulk Fuels Facility
Albuquerque, New Mexico

Sample ID	Date	Organics[1,2,3,4]								Inorganics[5,6,7]								Dissolved Metals[7]	
		1,2-Dibromoethane (EDB)[1]	Benzene[2]	Toluene[2]	Ethylbenzene[2]	Total Xylenes[2]	BTEX[3]	Acetone[2]	Chloroform[2]	Chloride[5]	Sulfate[5]	Total Alkalinity[5]	Arsenic[6]	Calcium[7]	Magnesium[7]	Potassium[7]	Sodium[7]	Iron[7]	Manganese[7]
Units		µg/L								mg/L									
EPA MCL		**0.05**	**5**	**1000**	**700**	**10,000**	**NS**	**NS**	**70**	**NS**	**NS**	**NS**	**0.010**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**
EPA RSL		**0.075**	**4.6**	**1100**	**15**	**190**	**NS**	**14000**	**0.22**	**NS**	**NS**	**NS**	**0.000052**	**NS**	**NS**	**NS**	**NS**	**14**	**0.43**
NMWQCC Standard		**0.05**	**5**	**1000**	**700**	**620**	**NS**	**NS**	**100**	**250**	**600**	**NS**	**0.010**	**NS**	**NS**	**NS**	**NS**	**1.0**	**0.2**
KAFB BFF PSL		**0.05**	**5**	**1000**	**700**	**620**	**NS**	**14000**	**70**	**250**	**600**	**NS**	**0.010**	**NS**	**NS**	**NS**	**NS**	**1.0**	**0.2**
WUABFFMW01	5/31/2023*	<0.019	<0.60	<0.60	<0.80	<0.80	<2.80	4.6 J	<0.60	11 D M	28 D	110	0.0015 J	34	4.7	2.9	25	0.13 J	0.074
	5/31/2023**	<0.019	<0.60	<0.60	<0.80	<0.80	<2.80	<2.0	<0.60	11 D M	28 D M	110	0.0010 J	33	4.7	2.8	26	0.11 J	0.190

Notes:

Bolding indicates values or RLs in excess of KAFB BFF PSLs = more stringent of EPA MCL or NMWQCC Standard, or EPA RSL if analyte has no MCL or NMWQCC Standard.

NS = No standard/screening level.

Selected analytes listed include EDB, BTEX compounds, and analytes detected in at least one environmental sample or QA/QC sample this quarter. See laboratory report for all non-detected analytes.

[1] = EDB analyzed by U.S. Environmental Protection Agency (EPA) Method 8011

[2] = Volatile organic compounds analyzed by EPA Method 8260D

[3] = BTEX includes sum of benzene, toluene, ethylbenzene, and total xylenes detections (non-detections < limit of detection [LOD] are assumed to be 0) or sum of LODs when no individual analytes are detecte

[4] = Semivolatile organic compounds analyzed by EPA Method 8270E

[5] = Nitrate and nitrite analyzed by EPA Method 353.2, other anions analyzed by EPA Method 300.0, and alkalinity analyzed by Standard Method 2320I

[6] = Arsenic and lead analyzed by EPA Method 6020A

[7] = Cations/dissolved metals analyzed by EPA Method 6010C.

*Passive Diffusion Bag Sampling Event.

**Bennett Pump Low-Flow Purge Sampling Event.

µg/L = microgram(s) per liter.

mg/L= milligram(s) per liter.

D - Reported value is from a dilution.

J - Result is less than the Limit of Quantitation (LOQ) but greater than or equal to the detection limit (DL) and the concentration is an approximate value.

M - Manually integrated result.

BTEX = benzene, toluene, ethylbenzene, and total xylenes.

EDB = 1,2-dibromoethane, also known as ethylene dibromide.

EPA MCL = maximum contaminant level as defined by the EPA.

EPA RSL = regional screening level as defined by the EPA.

NMWQCC Standard = Groundwater Standards as defined by the State of New Mexico Water Quality Control Commission (NMWQCC, December 2018).

KAFB BFF PSL = Kirtland Air Force Base Bulk Fuel Facility Project Screening Level

TABLE 3
Laboratory Analytical Results - QA/QC Samples
Quarterly Groundwater Monitoring Report for Data Gap Well WUABFFMW01
ABCWUA
Kirtland Air Force Base Bulk Fuels Facility
Albuquerque, New Mexico

Sample ID	Date	Organics						
		1,2-Dibromoethane (EDB)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Acetone	Chloroform
		Concentration (µg/L)						
EQPT_BLANK_05312023	05/31/2023	<0.50	<0.60	<0.60	<0.80	<0.80	2.0 J	<0.60
FIELD_BLANK_05312023	05/31/2023	<0.50	<0.60	<0.60	<0.80	<0.80	5.0 J	0.58 J

Notes:

Selected analytes listed include EDB, BTEX compounds, and volatile organic compounds detected in at least one environmental sample or QA/QC sample this quarter. See laboratory reports for all non-detected analytes.

Analyzed by EPA Method 8260D.

µg/L = microgram(s) per liter

J - Result is less than the Limit of Quantitation (LOQ) but greater than or equal to the detection limit (DL) and the concentration is an approximate value.

Appendix A

Field Notes and Groundwater Sampling Form

INTERA Passive Diffusion Water Sampling Data Sheet

Well Location ID: WUABFFMW01

DEPLOYMENT RECORD

Sample ID	WUABFFMW01		
Deployment Team	B. Archuleta, B. Williamson		
Date/Time Deployed	Date: MM/DD/YYY: 5/5/2023	Time:	1345
Water Level Meter	Geotech 500-ft OWI (INTERA's)		

Well Stats (feet below top of casing [ft btoc])	
Well Total Depth[1]	597
Top of Screen	572
Bottom of Screen	592
Depth to Water	450.93'
Notes	

[1] Total Depth is based on construction data, not measured in field

Sampler Number	Top of Sampler Depth (ft btoc)
1*	**574** ✓
2*	**577** ✓
3*	**580** ✓
4*	**583** ✓
5**	**586** ✓

*Dual Membrane Bag; ** Passive Diffusive Bag

Signed _____ Date 5/5/23

SAMPLING RECORD

Sample ID	WUAMW01_05312023_PDB		
Sampling Team	A. Hafner/B. Archuleta		
Date/Time Sampled	Date: MM/DD/YYY: 05/31/2023	Time:	0900
Water Level Meter			
Water Quality Meter	YSI Pro Plus (INTERA's)		

Water Quality Readings

Time	Temp (°C)	pH	SP. COND. (mS/cm)	ORP (mV)	TURB. (NTU)*	Comments (color/odor)
0925	20.2	7.42	228.5	165.8	1.13	colorless, odorless

Groundwater Analyses

EA used this bag ↓

Analytes/Method	1	2	3	4	5	Notes
VOCs EPA Method 8260.	☐	☐	☐	☐	☒	
SVOCs via EPA Method 8270.	☐	☐	☒	☐	☐	
Total Metals (As, Pb, Ca, Mg, K, Na) via EPA Method 6010/6020.	☒	☐	☐	☐	☐	
Dissolved Metals (Fe, Mn) via EPA 6010	☒	☐	☐	☐	☐	filtered
Anions (Cl, Br, SO4) via EPA Method E300.0.	☐	☒	☐	☐	☐	
Nitrate/Nitrite nitrogen via EPA 353.2	☐	☒	☐	☐	☐	
EDB via EPA Method 8011.	☐	☐	☐	☐	☒	
Alkalinity via EPA Method SM2320B.	☐	☒	☐	☐	☐	

Signed

5/31/23
Date

PROJECT NAME: _DATA GAP WELL _____ WELL NO.: __WUABFFMW01_____
PROJECT NO.: ABWUA.C009.KAFB____ DATE: 5/31/2023 FIELD CREW A. Hafner/B Archuleta

WATER LEVEL, WATER COLUMN HEIGHT, PUMP DETAILS

TIME	DEPTH TO BOTTOM OF WELL (ft btoc)*	DEPTH TO WATER (DTW) (ft btoc)	SCREENED INTERVAL (ft btoc)	Water Column Height (DTB-DTW) (ft)	PUMP TYPE	PUMP DEPTH (ft btoc)
0835	597	450.99	572- 592	146.01	BENNETT	~ 582

ft btoc: feet below top of casing from designated measuring point; *Total Depth is based on construction data, not measured in field

PURGE VOLUME

Well Casing Diameter (inches)	Volume/Linear Foot (see conversion table below)	1 Well Volume (gal)	2 Well Volumes (gal)	3 Well Volumes (gal)
3"	0.38	55.48		166.45

VOLUME/LINEAR FOOT (gal/ft) (Use well casing ID)

1" = 0.04	1.5" = 0.09	2" = 0.17	3" = 0.38	4" = 0.66	6" = 1.5	8" = 2.6	10" = 4.1

1 well casing volume = Volume/Linear Foot x Water Column Height

METHOD OF PURGING: Bennett Pump @ 110 psi
METHOD OF SAMPLING: Bennett Pump

WATER LEVEL/WATER QUALITY INSTRUMENTS USED

INSTRUMENT	SERIAL NO.	TIME CALIBRATION PERFORMED	TECH	COMMENTS
YSI Pro Plus	20D101043	0830	AH	
HACH 2100Q	13020C023547	0830	AH	

WATER QUALITY READINGS DURING PURGING

TIME	TEMP (°C)	pH	SP. COND. (µS/cm)	ORP (mV)	TURB. (NTU)*	Water Level (ft bTOC)	Flow Rate (gal/min)	Total Volume Purged (gal)	Comments (color/odor)
1100	Pump	on				450.98			
1105	Water	@ surface							colorless, odorless
1105	20.6	7.86	229.8	107.1	2.61	AH 451.25	1.0	1.0	" "
1120	19.6	8.03	230.1	85.9	0.96	457.28	1.0	16.0	" "
1135	19.6	8.37	231.2	75.1	1.0	451.31	1.0	31.0	" "
1150	19.7	8.30	231.7	97.5	0.75	451.28	1.1	46.0	" "
1205	19.6	8.27	232.0	79.1	0.79	451.28	1.1	62.5	" "
1210 AH	Generator shut off (CO sensor)								
1219	Generator back on, pumping resumed								
1220	19.4	8.27	232.4	72.1	0.75	451.30	1.1	~75.0	colorless, odorless
1235	19.5	8.33	232.8	64.3	0.74	451.26	1.1	~90	"
1250	19.5	8.34	232.2	103.3*	0.78	451.22	1.1	~105	* Just powered on YSI.
1305	19.5	8.32	232.0	82.7	0.75	451.21	1.1	~120	
1320	19.5	8.31	232.0	76.0	0.62	451.22	1.1	135	colorless, odorless

WATER QUALITY READINGS DURING PURGING (continued)

166.45 gal

TIME	TEMP (°C)	pH	SP. COND. (µS/cm)	ORP (mV)	TURB. (NTU)*	Water Level (ft bTOC)	Flow Rate (gal/min)	Total Volume Purged (gal)	Comments (color/odor)
1335	19.5	8.29	231.7	70.6	0.55	451.22	1.0	150	colorless, odorless
1350	19.6	8.34	232.0	67.6	0.74	451.21	1.0	165	"
1400	Volume reached, parameters stable, awaiting client/EA arrival								
1445	Sample								

*If measured.
Stabilization = Temp ±1°C; pH ±0.2 units; Sp. Cond. ±10%; Turb. ±10% (when greater than 10NTUs) ORP. ±10mV

GROUNDWATER SAMPLING DATA

GROUNDWATER SAMPLE ID: WUAMW01-05312023LF DUPLICATE SAMPLE ID: _____

Time	Bottle Type	Analytical Method	# of Bottles	Volume	Preservative
1445	VOA	8260D-PODS VOCs	3	40 mL	HCl
1445	VOA	8011 EDB	2	40 mL	HCl
1445	Amber glass	8270 SVOCs	2	250mL	none
1445	Plastic	6010C Total metals	1	250mL	HNO_3
1445	Plastic	6010C Dissolved metals Fe, Mn	1	250mL	HNO_3 *filtered
1445	Plastic	2320B Alkalinity	1	250 mL	none
1445	Plastic	353.2 Total N	1	250mL	H_2SO_4
1445	Plastic	3532 Nitrate	1	50 mL	none
1445	Plastic	300 Anions (Cl, Br, S)	1	50mL	none
~~[illegible]~~					
~~All~~					
		TOTAL:			

Sampler: Alison Hefner _____
(Printed Name) (Signature)

5/5/23 PDB + DMS Deployment BA/BW

1225 Arrive onsite Duke Gap Well
Kathryn + Indiana
Crew: B. Archuleta + B. Williamson
Setup traffic control
- bollards + caution tape.

Note: HASP, JSA, + Tailgate Safety meeting reviewed at office at 1115.

1235 B. Williamson back to INTERA office to get A-Frame and transducer spool.

1238 B. Archuleta download transducer data.

1255 DTW = 450.93' BTOC
- Geotech 500-foot OWI.
- Decon WLM tape/probe.

1300 B. Williamson return to Site. w/ A-Frame + spool.

1305 Begin pulling transducer from well.
- Place in plastic bag + box.

1315 Start filling DMS + PDB bags with Lab-grade DI water (EON) and prep for deployment.

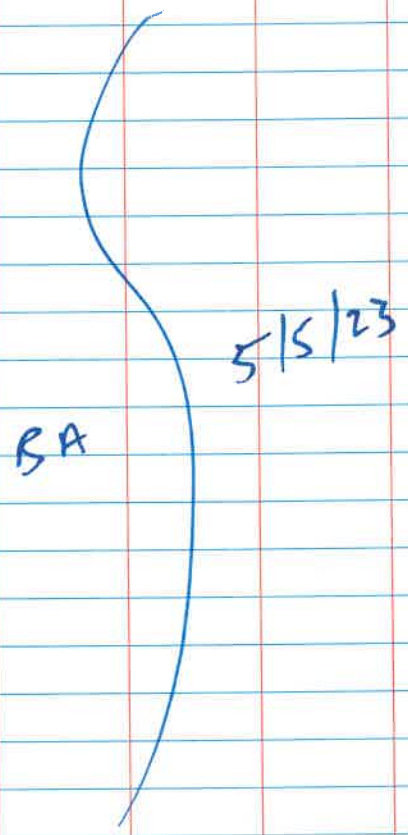
5/5/23 PDB & DMS Bag Deployment BA Box

1345 Finished deployment of PDB & DMS bags.

Start packing up equipment.
- lock j-plug (orang) & replace vault lid.

1400 Head back to Intera Office.

Offsite.



AH/BA . PDB + BP Sampling 5/31/23

Wednesday, May 31st, 2023

Wx: Cloudy, drizzling (supposed to stop by 9am), currently 67°F (high = 86), windy in afternoon

INTERA Personnel: Alison Hafner, Brian Archuleta

Objectives: Collect samples from PDBs + DMS, collect Bennett Pump rinsate, collect Bennett Pump sample. Purging using modified "low flow" (3 CV @ ~1 gpm)

0755 A. Hafner onsite

0800 B. Archuleta onsite, Scott Miles (EA) onsite; setting up traffic cones/tape

0810 Ceten Christensen (WUA) onsite

0815 Tailgate safety meeting

0830 Calibrate YSI + turbidity meter

0835 DTW = 450.99 ft *no LNAPL present

0900 Begin sampling PDBs + DM bags

Water Quality Parameters @ 0925

Temp °C	pH	Sp. Cond	ORP (mV)	Turb. (NTU)
20.2	7.42	228.5	165.8	1.13

See field form

Sample ID = WUAMW01_05312023_PDB

5/31/23 PDB + BP Sampling AH/BA

0935 Finish PDB/DM sampling
EA took sample from 4th bag
↳ Scott offsite @ 0940

0950 Setting up to begin decon
Missing outflow tube on Bennett Pump

1005 Lynda found missing tube @ office, bringing it to site

1007 Beginning decon of Bennett Pump
Bypassing flow meter until tubing gets here

1010 Begin Liquinox decon. cycle

1020 Begin DI Rinse

1030 Lab-grade DI Rinse cycling

1035 AH Collect rinsate sample
EQPT_BLANK_05312023 * 8260 VOCs

1040 Begin sending pump down well, deconning tubing w/ microfiber cloths

1100 Begin purge
DTW = 450.98 ft btoc
Target pumping rate = 1 gpm
Total purge = 166.45 gal

1212 Generator shut off → CO sensor caused it to shut off

↱ set up fan to disperse exhaust.

1219 Generator back on, pumping resumed

AH/BA PDB + BP Sampling 5/31/23

1230 A. Hafner to lunch.

1330 B. Archuleta to lunch.

1400 Purge volume reach and parameters are stable. Waiting for Client + EA to return to site prior to sampling.

Prep sample kit for sampling.

1420 ABCWA onsite.

1435 EA (Scott) onsite

1445 Collect Samples
- ID - WUA MW01_05312023_CF

* Note: EA taking Dups.

1450 Collect field blank → FIELD_BLANK_05312023
* 8260 VOCs

1500 Package cooler, begin reeling pump up

* @ 140', tape is peeling off tubing needs to be fixed

1520 Begin Pump/Tubing Decon
1. - DI (Culligan) + liquinox wash
2. Culligan DI Rinse
3. Culligan DI 2nd Rinse

1550 Decon finished, pump pulled up
DTW = 450.88 ft btoc

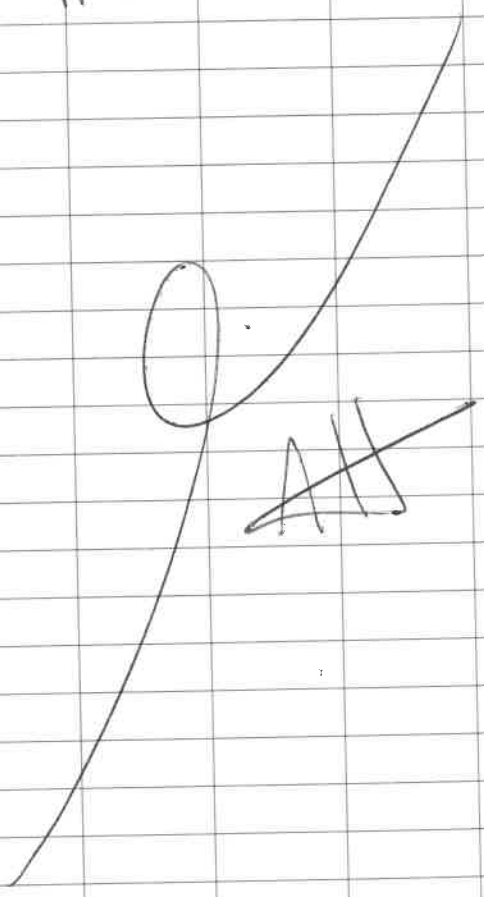
5/31/23 PDB & BP Sampling AH/BA

1605 Deploy transducer

1610 Transducer set to take hourly readings
Continue to clean-up @ site
Ceton offsite

1620 Neighbor from corner house came out & asked for one of our business cards → Brian gave him one of his

1635 Finished packing up; INTERA offsite
Alison back to office to unload equipment
Brian taking samples to FedEx & dropping trailer @ WWA yard



Appendix B

Laboratory Analytical Report

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Arun Wahi
INTERA Inc
9600 Great Hills Trail
Suite 300W
Austin, Texas 78759

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JOB DESCRIPTION

WUA Data Gap Well for KAFB BFF

JOB NUMBER

410-128748-1

Eurofins Lancaster Laboratories Environment Testing, LLC
2425 New Holland Pike
Lancaster PA 17601

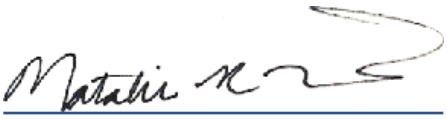
See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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Authorized for release by
Natalie Luciano, Principal Project Manager
Natalie.Luciano@et.eurofinsus.com
(717)556-7258

Compliance Statement

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.
· QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
· Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
· Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. The foregoing express warranty is exclusive and is given in lieu of all other warranties, expressed or implied, except as otherwise agreed. We disclaim any other warranties, expressed or implied, including a warranty of fitness for particular purpose and warranty of merchantability. In no event shall Eurofins Lancaster Laboratories Environmental, LLC be liable for indirect, special, consequential, or incidental damages including, but not limited to, damages for loss of profit or goodwill regardless of (A) the negligence (either sole or concurrent) of Eurofins Lancaster Laboratories Environmental and (B) whether Eurofins Lancaster Laboratories Environmental has been informed of the possibility of such damages. We accept no legal responsibility for the purposes for which the client uses the test results. Except as otherwise agreed, no purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

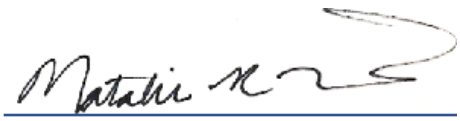

Table of Contents

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
^c	CCV Recovery is outside acceptance limits.
cn	Refer to Case Narrative for further detail
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
M	Manual integrated compound.
U	Indicates the analyte was analyzed for but not detected.

GC/MS Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
^c	CCV Recovery is outside acceptance limits.
cn	Refer to Case Narrative for further detail
M	Manual integrated compound.
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
D	The reported value is from a dilution.
M	Manual integrated compound.
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 410-128748-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative
410-128748-1

Receipt
The samples were received on 6/1/2023 10:08 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.5°C

Receipt Exceptions
A trip blank was submitted for analysis with these samples; however, it was not listed on the Chain of Custody (COC).

GC/MS VOA
Method 8260D_DOD5: The continuing calibration verification (CCV) associated with batch 410-385798 recovered above the upper control limit for Acrylonitrile and Chloromethane . Non-detections of the affected analytes are reported. Any detections are considered estimated.

Method 8260D_DOD5: The following analyte(s) recovered outside control limits for the LCS/LCSD associated with 410-385798: Trichlorofluoromethane . This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method 8260D_DOD5: The preservative used in the sample containers provided is not compatible with the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: WUAMW01_05312023_PDB (410-128748-1), EQPT_BLANK_05312023 (410-128748-2), WUAMW01_05312023_LF (410-128748-3), FIELD_BLANK_05312023 (410-128748-4) and Trip Blank (410-128748-5). The requested target analyte list includes Acrolein and Acrylonitrile , acid-labile compounds that degrade in an acidic medium.

Method 8260D_DOD5: The response for Hexachlorobutadiene in the initial calibration verification marginally exceeds the DoD acceptance criteria referenced by analytical batch 410-385798 . Due to the marginal nature of the outlier(s), the data are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC/MS Semi VOA
Method 8270E_DOD5: The surrogate recovery for the Method Blank (MB) associated with preparation batch 410-384020 and analytical batch 410-384135 was outside the lower control limits. The MB and sample were non-detect for all target analytes; therefore, the data have been reported. WUAMW01_05312023_PDB (410-128748-1) and WUAMW01_05312023_LF (410-128748-3)

Method 8270E_DOD5: The continuing calibration verification (CCV) associated with batch 410-384135 recovered above the upper control limit for 4,6-Dinitro-2-methylphenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are: WUAMW01_05312023_PDB (410-128748-1) and WUAMW01_05312023_LF (410-128748-3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Job ID: 410-128748-1 (Continued)

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

Detection Summary

Client: INTERA Inc
Job ID: 410-128748-1
Project/Site: WUA Data Gap Well for KAFB BFF

Client Sample ID: WUAMW01_05312023_PDB — Lab Sample ID: 410-128748-1

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Acetone	4.6	J	20	2.0	0.70	ug/L	1		8260D	Total/NA
Chloride	11	D M	7.5	6.0	3.0	mg/L	5		300.0	Total/NA
Sulfate	28	D	7.5	5.0	2.5	mg/L	5		300.0	Total/NA
Calcium	34000		200	190	96	ug/L	1		6010C	Total Recoverable
Magnesium	4700		100	80	40	ug/L	1		6010C	Total Recoverable
Potassium	2900		500	410	200	ug/L	1		6010C	Total Recoverable
Sodium	25000		1000	480	240	ug/L	1		6010C	Total Recoverable
Iron, Dissolved	130	J	210	160	82	ug/L	1		6010C	Dissolved
Manganese, Dissolved	74		10	6.2	3.1	ug/L	1		6010C	Dissolved
Arsenic	1.5	J	2.0	1.7	0.68	ug/L	1		6020A	Total Recoverable
Bicarbonate Alkalinity as CaCO3	110		8.0	6.0	2.6	mg/L	1		2320B-2011	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	110		8.0	6.0	2.6	mg/L	1		2320B-2011	Total/NA

Client Sample ID: EQPT_BLANK_05312023 — Lab Sample ID: 410-128748-2

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Acetone	2.0	J	20	2.0	0.70	ug/L	1		8260D	Total/NA

Client Sample ID: WUAMW01_05312023_LF — Lab Sample ID: 410-128748-3

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Chloride	11	D M	7.5	6.0	3.0	mg/L	5		300.0	Total/NA
Sulfate	28	D M	7.5	5.0	2.5	mg/L	5		300.0	Total/NA
Calcium	33000		200	190	96	ug/L	1		6010C	Total Recoverable
Magnesium	4700		100	80	40	ug/L	1		6010C	Total Recoverable
Potassium	2800		500	410	200	ug/L	1		6010C	Total Recoverable
Sodium	26000		1000	480	240	ug/L	1		6010C	Total Recoverable
Iron, Dissolved	110	J	210	160	82	ug/L	1		6010C	Dissolved
Manganese, Dissolved	190		10	6.2	3.1	ug/L	1		6010C	Dissolved
Arsenic	1.0	J	2.0	1.7	0.68	ug/L	1		6020A	Total Recoverable
Bicarbonate Alkalinity as CaCO3	110		8.0	6.0	2.6	mg/L	1		2320B-2011	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	110		8.0	6.0	2.6	mg/L	1		2320B-2011	Total/NA

Client Sample ID: FIELD_BLANK_05312023 — Lab Sample ID: 410-128748-4

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Acetone	5.0	J	20	2.0	0.70	ug/L	1		8260D	Total/NA
Chloroform	0.58	J	1.0	0.60	0.30	ug/L	1		8260D	Total/NA

Client Sample ID: Trip Blank — Lab Sample ID: 410-128748-5

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Environment Testing, LLC

Client: INTERA Inc
Job ID: 410-128748-1
Project/Site: WUA Data Gap Well for KAFB BFF

Client Sample ID: WUAMW01_05312023_PDB
Lab Sample ID: 410-128748-1
Date Collected: 05/31/23 09:00
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
1,1,1-Trichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
1,1,2,2-Tetrachloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
1,1,2-Trichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
1,1-Dichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
1,1-Dichloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
1,1-Dichloropropene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 14:48	1
1,2,3-Trichlorobenzene	1.0	U	5.0	1.0	0.40	ug/L		06/13/23 14:48	1
1,2,3-Trichloropropane	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 14:48	1
1,2,4-Trichlorobenzene	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 14:48	1
1,2,4-Trimethylbenzene	2.0	U	5.0	2.0	1.0	ug/L		06/13/23 14:48	1
1,2-Dibromo-3-Chloropropane	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 14:48	1
1,2-Dibromoethane (EDB)	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 14:48	1
1,2-Dichlorobenzene	0.50	U	5.0	0.50	0.20	ug/L		06/13/23 14:48	1
1,2-Dichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
1,2-Dichloropropane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
1,3,5-Trimethylbenzene	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 14:48	1
1,3-Dichlorobenzene	1.4	U	5.0	1.4	0.68	ug/L		06/13/23 14:48	1
1,3-Dichloropropane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
1,4-Dichlorobenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 14:48	1
2,2-Dichloropropane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
2-Butanone	1.0	U	10	1.0	0.50	ug/L		06/13/23 14:48	1
2-Chlorotoluene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 14:48	1
2-Hexanone	1.7	U	10	1.7	0.85	ug/L		06/13/23 14:48	1
4-Chlorotoluene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 14:48	1
4-Methyl-2-pentanone	1.0	U	10	1.0	0.50	ug/L		06/13/23 14:48	1
Acetone	**4.6**	**J**	20	2.0	0.70	ug/L		06/13/23 14:48	1
Acrolein	6.0	U cn	100	6.0	3.0	ug/L		06/13/23 14:48	1
Acrylonitrile	3.2	U ^c cn	20	3.2	1.6	ug/L		06/13/23 14:48	1
Benzene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
Bromobenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 14:48	1
Bromochloromethane	0.50	U	5.0	0.50	0.20	ug/L		06/13/23 14:48	1
Bromodichloromethane	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 14:48	1
Bromoform	2.0	U	4.0	2.0	1.0	ug/L		06/13/23 14:48	1
Bromomethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
Carbon disulfide	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 14:48	1
Carbon tetrachloride	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
Chlorobenzene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
Chloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
Chloroform	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
Chloromethane	1.1	U ^c cn	2.0	1.1	0.55	ug/L		06/13/23 14:48	1
cis-1,2-Dichloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
cis-1,3-Dichloropropene	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 14:48	1
Dibromochloromethane	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 14:48	1
Dibromomethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
Dichlorodifluoromethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		06/13/23 14:48	1
Hexachlorobutadiene	4.0	U cn	5.0	4.0	2.0	ug/L		06/13/23 14:48	1
Isopropylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 14:48	1

Client Sample ID: WUAMW01_05312023_PDB
Lab Sample ID: 410-128748-1
Date Collected: 05/31/23 09:00
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
m&p-Xylene	4.0	U	5.0	4.0	2.0	ug/L		06/13/23 14:48	1
Methyl tert-butyl ether	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 14:48	1
Methylene Chloride	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
Naphthalene	2.0	U	5.0	2.0	1.0	ug/L		06/13/23 14:48	1
n-Butylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 14:48	1
N-Propylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 14:48	1
o-Xylene	0.80	U	1.0	0.80	0.40	ug/L		06/13/23 14:48	1
p-Isopropyltoluene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 14:48	1
sec-Butylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 14:48	1
Styrene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 14:48	1
tert-Butylbenzene	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 14:48	1
Tetrachloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
Toluene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
trans-1,2-Dichloroethene	1.4	U	2.0	1.4	0.70	ug/L		06/13/23 14:48	1
trans-1,3-Dichloropropene	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 14:48	1
Trichloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
Trichlorofluoromethane	0.60	U *- cn	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
Vinyl acetate	4.0	U	10	4.0	2.0	ug/L		06/13/23 14:48	1
Vinyl chloride	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 14:48	1
Xylenes, Total	0.80	U	1.0	0.80	0.40	ug/L		06/13/23 14:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*81 - 118*		*06/13/23 14:48*	*1*
4-Bromofluorobenzene (Surr)	*96*		*85 - 114*		*06/13/23 14:48*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 119*		*06/13/23 14:48*	*1*
Toluene-d8 (Surr)	*106*		*89 - 112*		*06/13/23 14:48*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1'-Biphenyl	1.0	U cn	2.1	1.0	0.52	ug/L		06/07/23 23:41	1
2,2'-oxybis[1-chloropropane]	1.0	U *1 cn	2.1	1.0	0.52	ug/L		06/07/23 23:41	1
2,4,5-Trichlorophenol	1.0	U cn	2.1	1.0	0.52	ug/L		06/07/23 23:41	1
2,4,6-Trichlorophenol	1.0	U cn	2.1	1.0	0.52	ug/L		06/07/23 23:41	1
2,4-Dichlorophenol	1.0	U cn	2.1	1.0	0.52	ug/L		06/07/23 23:41	1
2,4-Dimethylphenol	9.4	U cn	10	9.4	3.1	ug/L		06/07/23 23:41	1
2,4-Dinitrophenol	29	U cn	31	29	15	ug/L		06/07/23 23:41	1
2,4-Dinitrotoluene	2.1	U *1 cn	5.2	2.1	1.0	ug/L		06/07/23 23:41	1
2,6-Dinitrotoluene	1.0	U M *1 cn	2.1	1.0	0.52	ug/L		06/07/23 23:41	1
2-Chloronaphthalene	0.83	U cn	1.0	0.83	0.42	ug/L		06/07/23 23:41	1
2-Chlorophenol	1.0	U cn	2.1	1.0	0.52	ug/L		06/07/23 23:41	1
2-Methylnaphthalene	0.21	U cn	0.52	0.21	0.10	ug/L		06/07/23 23:41	1
2-Methylphenol	1.0	U cn	2.1	1.0	0.52	ug/L		06/07/23 23:41	1
2-Nitroaniline	2.1	U *1 cn	5.2	2.1	1.0	ug/L		06/07/23 23:41	1
2-Nitrophenol	2.1	U cn	5.2	2.1	1.0	ug/L		06/07/23 23:41	1
3,3'-Dichlorobenzidine	8.3	U cn	10	8.3	4.2	ug/L		06/07/23 23:41	1
4,6-Dinitro-2-methylphenol	21	U ^c *1 cn	22	21	8.3	ug/L		06/07/23 23:41	1
4-Chloro-3-methylphenol	2.1	U cn	5.2	2.1	1.0	ug/L		06/07/23 23:41	1
4-Chloroaniline	9.4	U cn	10	9.4	4.2	ug/L		06/07/23 23:41	1
4-Chlorophenyl phenyl ether	1.0	U cn	2.1	1.0	0.52	ug/L		06/07/23 23:41	1
4-Methylphenol	1.0	U cn	2.1	1.0	0.52	ug/L		06/07/23 23:41	1

Client Sample ID: WUAMW01_05312023_PDB
Lab Sample ID: 410-128748-1
Date Collected: 05/31/23 09:00
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4-Nitroaniline	2.1	U cn	3.1	2.1	0.94	ug/L		06/07/23 23:41	1
4-Nitrophenol	21	U cn	31	21	10	ug/L		06/07/23 23:41	1
Acenaphthene	0.21	U cn	0.52	0.21	0.10	ug/L		06/07/23 23:41	1
Acenaphthylene	0.21	U cn	0.52	0.21	0.10	ug/L		06/07/23 23:41	1
Acetophenone	2.1	U cn	5.2	2.1	1.0	ug/L		06/07/23 23:41	1
Anthracene	0.21	U *1 cn	0.52	0.21	0.10	ug/L		06/07/23 23:41	1
Atrazine	2.1	U cn	5.2	2.1	1.0	ug/L		06/07/23 23:41	1
Benzaldehyde	2.1	U cn	5.2	2.1	1.0	ug/L		06/07/23 23:41	1
Benzo[a]anthracene	0.21	U cn	0.52	0.21	0.10	ug/L		06/07/23 23:41	1
Benzo[a]pyrene	0.23	U cn	0.52	0.23	0.11	ug/L		06/07/23 23:41	1
Benzo[b]fluoranthene	0.21	U cn	0.52	0.21	0.10	ug/L		06/07/23 23:41	1
Benzo[g,h,i]perylene	0.21	U cn	0.52	0.21	0.10	ug/L		06/07/23 23:41	1
Benzo[k]fluoranthene	0.21	U cn	0.52	0.21	0.10	ug/L		06/07/23 23:41	1
Bis(2-chloroethoxy)methane	1.0	U cn	2.1	1.0	0.52	ug/L		06/07/23 23:41	1
Bis(2-chloroethyl)ether	1.0	U cn	2.1	1.0	0.52	ug/L		06/07/23 23:41	1
Bis(2-ethylhexyl) phthalate	4.2	U cn	5.2	4.2	2.1	ug/L		06/07/23 23:41	1
Butyl benzyl phthalate	4.2	U cn	5.2	4.2	2.1	ug/L		06/07/23 23:41	1
Caprolactam	6.3	U cn	7.3	6.3	3.1	ug/L		06/07/23 23:41	1
Carbazole	1.0	U cn	2.1	1.0	0.52	ug/L		06/07/23 23:41	1
Chrysene	0.21	U cn	0.52	0.21	0.10	ug/L		06/07/23 23:41	1
Dibenz(a,h)anthracene	0.21	U cn	0.52	0.21	0.10	ug/L		06/07/23 23:41	1
Dibenzofuran	1.0	U cn	2.1	1.0	0.52	ug/L		06/07/23 23:41	1
Diethyl phthalate	4.2	U *1 cn	5.2	4.2	2.1	ug/L		06/07/23 23:41	1
Dimethyl phthalate	4.2	U cn	5.2	4.2	2.1	ug/L		06/07/23 23:41	1
Di-n-butyl phthalate	4.2	U *1 cn	5.2	4.2	2.1	ug/L		06/07/23 23:41	1
Di-n-octyl phthalate	10	U M cn	11	10	5.2	ug/L		06/07/23 23:41	1
Fluoranthene	0.21	U cn	0.52	0.21	0.10	ug/L		06/07/23 23:41	1
Fluorene	0.25	U cn	0.52	0.25	0.13	ug/L		06/07/23 23:41	1
Hexachlorobenzene	0.23	U *1 cn	0.52	0.23	0.11	ug/L		06/07/23 23:41	1
Hexachlorobutadiene	1.0	U *1 cn	2.1	1.0	0.52	ug/L		06/07/23 23:41	1
Hexachlorocyclopentadiene	10	U cn	11	10	5.2	ug/L		06/07/23 23:41	1
Hexachloroethane	1.0	U *1 cn	5.2	1.0	0.52	ug/L		06/07/23 23:41	1
Indeno[1,2,3-cd]pyrene	0.23	U cn	0.52	0.23	0.11	ug/L		06/07/23 23:41	1
Isophorone	1.0	U cn	2.1	1.0	0.52	ug/L		06/07/23 23:41	1
Naphthalene	0.21	U M cn	0.52	0.21	0.10	ug/L		06/07/23 23:41	1
Nitrobenzene	1.0	U cn	2.1	1.0	0.52	ug/L		06/07/23 23:41	1
N-Nitrosodi-n-propylamine	1.0	U cn	2.1	1.0	0.52	ug/L		06/07/23 23:41	1
N-Nitrosodiphenylamine	1.0	U cn	2.1	1.0	0.52	ug/L		06/07/23 23:41	1
Pentachlorophenol	4.2	U *1 cn	5.2	4.2	1.0	ug/L		06/07/23 23:41	1
Phenanthrene	0.23	U *1 cn	0.52	0.23	0.11	ug/L		06/07/23 23:41	1
Phenol	1.0	U cn	2.1	1.0	0.52	ug/L		06/07/23 23:41	1
Pyrene	0.21	U cn	0.52	0.21	0.10	ug/L		06/07/23 23:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*79*	*cn*	*43 - 140*	*06/07/23 15:42*	*06/07/23 23:41*	*1*
2-Fluorobiphenyl (Surr)	*78*	*cn*	*44 - 119*	*06/07/23 15:42*	*06/07/23 23:41*	*1*
2-Fluorophenol (Surr)	*35*	*cn*	*19 - 119*	*06/07/23 15:42*	*06/07/23 23:41*	*1*
Nitrobenzene-d5 (Surr)	*56*	*cn*	*44 - 120*	*06/07/23 15:42*	*06/07/23 23:41*	*1*
Phenol-d5 (Surr)	*25*	*cn*	*10 - 120*	*06/07/23 15:42*	*06/07/23 23:41*	*1*
p-Terphenyl-d14 (Surr)	*86*	*cn*	*50 - 134*	*06/07/23 15:42*	*06/07/23 23:41*	*1*

Client Sample ID: WUAMW01_05312023_PDB
Lab Sample ID: 410-128748-1

Date Collected: 05/31/23 09:00
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U	0.029	0.019	0.0095	ug/L		06/06/23 16:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,1,2,2-Tetrachloroethane (1C)	*72*		*46 - 136*	*06/06/23 02:19*	*06/06/23 16:21*	*1*
1,1,2,2-Tetrachloroethane (2C)	*74*		*46 - 136*	*06/06/23 02:19*	*06/06/23 16:21*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bromide	2.5	U	3.8	2.5	1.3	mg/L		06/22/23 22:59	5
Chloride	**11**	**D M**	7.5	6.0	3.0	mg/L		06/22/23 22:59	5
Sulfate	**28**	**D**	7.5	5.0	2.5	mg/L		06/22/23 22:59	5

Method: SW846 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Calcium	**34000**		200	190	96	ug/L		06/08/23 00:22	1
Magnesium	**4700**		100	80	40	ug/L		06/08/23 00:22	1
Potassium	**2900**		500	410	200	ug/L		06/08/23 00:22	1
Sodium	**25000**		1000	480	240	ug/L		06/08/23 08:21	1

Method: SW846 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron, Dissolved	**130**	**J**	210	160	82	ug/L		06/07/23 08:20	1
Manganese, Dissolved	**74**		10	6.2	3.1	ug/L		06/07/23 08:20	1

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	**1.5**	**J**	2.0	1.7	0.68	ug/L		06/13/23 15:55	1
Lead	0.20	U	0.50	0.20	0.071	ug/L		06/13/23 15:55	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B-2011)	**110**		8.0	6.0	2.6	mg/L		06/06/23 20:34	1
Carbonate Alkalinity as CaCO3 (SM 2320B-2011)	6.0	U	8.0	6.0	2.6	mg/L		06/06/23 20:34	1
Total Alkalinity as CaCO3 to pH 4.5 (SM 2320B-2011)	**110**		8.0	6.0	2.6	mg/L		06/06/23 20:34	1
Nitrate as N (EPA 353.2)	0.090	U	0.10	0.090	0.040	mg/L		06/02/23 11:34	1
Nitrate Nitrite as N (EPA 353.2)	0.090	U	0.10	0.090	0.040	mg/L		06/08/23 09:10	1
Nitrite as N (EPA 353.2)	0.040	U	0.050	0.040	0.015	mg/L		06/02/23 08:27	1

Client Sample ID: EQPT_BLANK_05312023
Lab Sample ID: 410-128748-2

Date Collected: 05/31/23 10:35
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
1,1,1-Trichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
1,1,2,2-Tetrachloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
1,1,2-Trichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
1,1-Dichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1

Client: INTERA Inc
Job ID: 410-128748-1
Project/Site: WUA Data Gap Well for KAFB BFF

Client Sample ID: EQPT_BLANK_05312023
Lab Sample ID: 410-128748-2
Date Collected: 05/31/23 10:35
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1-Dichloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
1,1-Dichloropropene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:10	1
1,2,3-Trichlorobenzene	1.0	U	5.0	1.0	0.40	ug/L		06/13/23 15:10	1
1,2,3-Trichloropropane	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:10	1
1,2,4-Trichlorobenzene	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 15:10	1
1,2,4-Trimethylbenzene	2.0	U	5.0	2.0	1.0	ug/L		06/13/23 15:10	1
1,2-Dibromo-3-Chloropropane	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 15:10	1
1,2-Dibromoethane (EDB)	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 15:10	1
1,2-Dichlorobenzene	0.50	U	5.0	0.50	0.20	ug/L		06/13/23 15:10	1
1,2-Dichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
1,2-Dichloropropane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
1,3,5-Trimethylbenzene	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 15:10	1
1,3-Dichlorobenzene	1.4	U	5.0	1.4	0.68	ug/L		06/13/23 15:10	1
1,3-Dichloropropane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
1,4-Dichlorobenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:10	1
2,2-Dichloropropane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
2-Butanone	1.0	U	10	1.0	0.50	ug/L		06/13/23 15:10	1
2-Chlorotoluene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:10	1
2-Hexanone	1.7	U	10	1.7	0.85	ug/L		06/13/23 15:10	1
4-Chlorotoluene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:10	1
4-Methyl-2-pentanone	1.0	U	10	1.0	0.50	ug/L		06/13/23 15:10	1
Acetone	**2.0**	**J**	20	2.0	0.70	ug/L		06/13/23 15:10	1
Acrolein	6.0	U cn	100	6.0	3.0	ug/L		06/13/23 15:10	1
Acrylonitrile	3.2	U ^c cn	20	3.2	1.6	ug/L		06/13/23 15:10	1
Benzene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
Bromobenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:10	1
Bromochloromethane	0.50	U	5.0	0.50	0.20	ug/L		06/13/23 15:10	1
Bromodichloromethane	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 15:10	1
Bromoform	2.0	U	4.0	2.0	1.0	ug/L		06/13/23 15:10	1
Bromomethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
Carbon disulfide	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:10	1
Carbon tetrachloride	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
Chlorobenzene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
Chloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
Chloroform	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
Chloromethane	1.1	U ^c cn	2.0	1.1	0.55	ug/L		06/13/23 15:10	1
cis-1,2-Dichloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
cis-1,3-Dichloropropene	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 15:10	1
Dibromochloromethane	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 15:10	1
Dibromomethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
Dichlorodifluoromethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		06/13/23 15:10	1
Hexachlorobutadiene	4.0	U cn	5.0	4.0	2.0	ug/L		06/13/23 15:10	1
Isopropylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:10	1
m&p-Xylene	4.0	U	5.0	4.0	2.0	ug/L		06/13/23 15:10	1
Methyl tert-butyl ether	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 15:10	1
Methylene Chloride	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
Naphthalene	2.0	U	5.0	2.0	1.0	ug/L		06/13/23 15:10	1
n-Butylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:10	1

Client Sample ID: EQPT_BLANK_05312023

Lab Sample ID: 410-128748-2

Date Collected: 05/31/23 10:35

Matrix: Water

Date Received: 06/01/23 10:08

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
N-Propylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:10	1
o-Xylene	0.80	U	1.0	0.80	0.40	ug/L		06/13/23 15:10	1
p-Isopropyltoluene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:10	1
sec-Butylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:10	1
Styrene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:10	1
tert-Butylbenzene	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 15:10	1
Tetrachloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
Toluene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
trans-1,2-Dichloroethene	1.4	U	2.0	1.4	0.70	ug/L		06/13/23 15:10	1
trans-1,3-Dichloropropene	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 15:10	1
Trichloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
Trichlorofluoromethane	0.60	U *- cn	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
Vinyl acetate	4.0	U	10	4.0	2.0	ug/L		06/13/23 15:10	1
Vinyl chloride	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:10	1
Xylenes, Total	0.80	U	1.0	0.80	0.40	ug/L		06/13/23 15:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*81 - 118*		*06/13/23 15:10*	*1*
4-Bromofluorobenzene (Surr)	*95*		*85 - 114*		*06/13/23 15:10*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 119*		*06/13/23 15:10*	*1*
Toluene-d8 (Surr)	*106*		*89 - 112*		*06/13/23 15:10*	*1*

Client Sample ID: WUAMW01_05312023_LF

Lab Sample ID: 410-128748-3

Date Collected: 05/31/23 14:45

Matrix: Water

Date Received: 06/01/23 10:08

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
1,1,1-Trichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
1,1,2,2-Tetrachloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
1,1,2-Trichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
1,1-Dichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
1,1-Dichloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
1,1-Dichloropropene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:32	1
1,2,3-Trichlorobenzene	1.0	U	5.0	1.0	0.40	ug/L		06/13/23 15:32	1
1,2,3-Trichloropropane	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:32	1
1,2,4-Trichlorobenzene	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 15:32	1
1,2,4-Trimethylbenzene	2.0	U	5.0	2.0	1.0	ug/L		06/13/23 15:32	1
1,2-Dibromo-3-Chloropropane	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 15:32	1
1,2-Dibromoethane (EDB)	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 15:32	1
1,2-Dichlorobenzene	0.50	U	5.0	0.50	0.20	ug/L		06/13/23 15:32	1
1,2-Dichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
1,2-Dichloropropane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
1,3,5-Trimethylbenzene	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 15:32	1
1,3-Dichlorobenzene	1.4	U	5.0	1.4	0.68	ug/L		06/13/23 15:32	1
1,3-Dichloropropane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
1,4-Dichlorobenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:32	1
2,2-Dichloropropane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
2-Butanone	1.0	U	10	1.0	0.50	ug/L		06/13/23 15:32	1

Client: INTERA Inc
Job ID: 410-128748-1
Project/Site: WUA Data Gap Well for KAFB BFF

Client Sample ID: WUAMW01_05312023_LF
Lab Sample ID: 410-128748-3
Date Collected: 05/31/23 14:45
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2-Chlorotoluene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:32	1
2-Hexanone	1.7	U	10	1.7	0.85	ug/L		06/13/23 15:32	1
4-Chlorotoluene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:32	1
4-Methyl-2-pentanone	1.0	U	10	1.0	0.50	ug/L		06/13/23 15:32	1
Acetone	2.0	U	20	2.0	0.70	ug/L		06/13/23 15:32	1
Acrolein	6.0	U cn	100	6.0	3.0	ug/L		06/13/23 15:32	1
Acrylonitrile	3.2	U ^c cn	20	3.2	1.6	ug/L		06/13/23 15:32	1
Benzene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
Bromobenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:32	1
Bromochloromethane	0.50	U	5.0	0.50	0.20	ug/L		06/13/23 15:32	1
Bromodichloromethane	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 15:32	1
Bromoform	2.0	U	4.0	2.0	1.0	ug/L		06/13/23 15:32	1
Bromomethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
Carbon disulfide	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:32	1
Carbon tetrachloride	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
Chlorobenzene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
Chloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
Chloroform	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
Chloromethane	1.1	U ^c cn	2.0	1.1	0.55	ug/L		06/13/23 15:32	1
cis-1,2-Dichloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
cis-1,3-Dichloropropene	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 15:32	1
Dibromochloromethane	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 15:32	1
Dibromomethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
Dichlorodifluoromethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		06/13/23 15:32	1
Hexachlorobutadiene	4.0	U cn	5.0	4.0	2.0	ug/L		06/13/23 15:32	1
Isopropylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:32	1
m&p-Xylene	4.0	U	5.0	4.0	2.0	ug/L		06/13/23 15:32	1
Methyl tert-butyl ether	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 15:32	1
Methylene Chloride	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
Naphthalene	2.0	U	5.0	2.0	1.0	ug/L		06/13/23 15:32	1
n-Butylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:32	1
N-Propylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:32	1
o-Xylene	0.80	U	1.0	0.80	0.40	ug/L		06/13/23 15:32	1
p-Isopropyltoluene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:32	1
sec-Butylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:32	1
Styrene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:32	1
tert-Butylbenzene	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 15:32	1
Tetrachloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
Toluene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
trans-1,2-Dichloroethene	1.4	U	2.0	1.4	0.70	ug/L		06/13/23 15:32	1
trans-1,3-Dichloropropene	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 15:32	1
Trichloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
Trichlorofluoromethane	0.60	U *- cn	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
Vinyl acetate	4.0	U	10	4.0	2.0	ug/L		06/13/23 15:32	1
Vinyl chloride	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:32	1
Xylenes, Total	0.80	U	1.0	0.80	0.40	ug/L		06/13/23 15:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*81 - 118*		*06/13/23 15:32*	*1*

Client: INTERA Inc
Job ID: 410-128748-1
Project/Site: WUA Data Gap Well for KAFB BFF

Client Sample ID: WUAMW01_05312023_LF
Lab Sample ID: 410-128748-3
Date Collected: 05/31/23 14:45
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*85 - 114*		*06/13/23 15:32*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 119*		*06/13/23 15:32*	*1*
Toluene-d8 (Surr)	*105*		*89 - 112*		*06/13/23 15:32*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1'-Biphenyl	1.0	U cn	2.1	1.0	0.52	ug/L		06/08/23 00:03	1
2,2'-oxybis[1-chloropropane]	1.0	U *1 cn	2.1	1.0	0.52	ug/L		06/08/23 00:03	1
2,4,5-Trichlorophenol	1.0	U cn	2.1	1.0	0.52	ug/L		06/08/23 00:03	1
2,4,6-Trichlorophenol	1.0	U cn	2.1	1.0	0.52	ug/L		06/08/23 00:03	1
2,4-Dichlorophenol	1.0	U cn	2.1	1.0	0.52	ug/L		06/08/23 00:03	1
2,4-Dimethylphenol	9.4	U cn	10	9.4	3.1	ug/L		06/08/23 00:03	1
2,4-Dinitrophenol	29	U cn	31	29	15	ug/L		06/08/23 00:03	1
2,4-Dinitrotoluene	2.1	U *1 cn	5.2	2.1	1.0	ug/L		06/08/23 00:03	1
2,6-Dinitrotoluene	1.0	U *1 cn	2.1	1.0	0.52	ug/L		06/08/23 00:03	1
2-Chloronaphthalene	0.83	U cn	1.0	0.83	0.42	ug/L		06/08/23 00:03	1
2-Chlorophenol	1.0	U cn	2.1	1.0	0.52	ug/L		06/08/23 00:03	1
2-Methylnaphthalene	0.21	U cn	0.52	0.21	0.10	ug/L		06/08/23 00:03	1
2-Methylphenol	1.0	U cn	2.1	1.0	0.52	ug/L		06/08/23 00:03	1
2-Nitroaniline	2.1	U *1 cn	5.2	2.1	1.0	ug/L		06/08/23 00:03	1
2-Nitrophenol	2.1	U cn	5.2	2.1	1.0	ug/L		06/08/23 00:03	1
3,3'-Dichlorobenzidine	8.3	U cn	10	8.3	4.2	ug/L		06/08/23 00:03	1
4,6-Dinitro-2-methylphenol	21	U ^c *1 cn	22	21	8.3	ug/L		06/08/23 00:03	1
4-Chloro-3-methylphenol	2.1	U cn	5.2	2.1	1.0	ug/L		06/08/23 00:03	1
4-Chloroaniline	9.4	U cn	10	9.4	4.2	ug/L		06/08/23 00:03	1
4-Chlorophenyl phenyl ether	1.0	U cn	2.1	1.0	0.52	ug/L		06/08/23 00:03	1
4-Methylphenol	1.0	U cn	2.1	1.0	0.52	ug/L		06/08/23 00:03	1
4-Nitroaniline	2.1	U cn	3.1	2.1	0.94	ug/L		06/08/23 00:03	1
4-Nitrophenol	21	U cn	31	21	10	ug/L		06/08/23 00:03	1
Acenaphthene	0.21	U cn	0.52	0.21	0.10	ug/L		06/08/23 00:03	1
Acenaphthylene	0.21	U cn	0.52	0.21	0.10	ug/L		06/08/23 00:03	1
Acetophenone	2.1	U cn	5.2	2.1	1.0	ug/L		06/08/23 00:03	1
Anthracene	0.21	U *1 cn	0.52	0.21	0.10	ug/L		06/08/23 00:03	1
Atrazine	2.1	U cn	5.2	2.1	1.0	ug/L		06/08/23 00:03	1
Benzaldehyde	2.1	U cn	5.2	2.1	1.0	ug/L		06/08/23 00:03	1
Benzo[a]anthracene	0.21	U cn	0.52	0.21	0.10	ug/L		06/08/23 00:03	1
Benzo[a]pyrene	0.23	U cn	0.52	0.23	0.11	ug/L		06/08/23 00:03	1
Benzo[b]fluoranthene	0.21	U cn	0.52	0.21	0.10	ug/L		06/08/23 00:03	1
Benzo[g,h,i]perylene	0.21	U cn	0.52	0.21	0.10	ug/L		06/08/23 00:03	1
Benzo[k]fluoranthene	0.21	U cn	0.52	0.21	0.10	ug/L		06/08/23 00:03	1
Bis(2-chloroethoxy)methane	1.0	U cn	2.1	1.0	0.52	ug/L		06/08/23 00:03	1
Bis(2-chloroethyl)ether	1.0	U cn	2.1	1.0	0.52	ug/L		06/08/23 00:03	1
Bis(2-ethylhexyl) phthalate	4.2	U cn	5.2	4.2	2.1	ug/L		06/08/23 00:03	1
Butyl benzyl phthalate	4.2	U cn	5.2	4.2	2.1	ug/L		06/08/23 00:03	1
Caprolactam	6.3	U cn	7.3	6.3	3.1	ug/L		06/08/23 00:03	1
Carbazole	1.0	U cn	2.1	1.0	0.52	ug/L		06/08/23 00:03	1
Chrysene	0.21	U cn	0.52	0.21	0.10	ug/L		06/08/23 00:03	1
Dibenz(a,h)anthracene	0.21	U cn	0.52	0.21	0.10	ug/L		06/08/23 00:03	1
Dibenzofuran	1.0	U cn	2.1	1.0	0.52	ug/L		06/08/23 00:03	1

Client Sample ID: WUAMW01_05312023_LF
Lab Sample ID: 410-128748-3
Date Collected: 05/31/23 14:45
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Diethyl phthalate	4.2	U *1 cn	5.2	4.2	2.1	ug/L		06/08/23 00:03	1
Dimethyl phthalate	4.2	U cn	5.2	4.2	2.1	ug/L		06/08/23 00:03	1
Di-n-butyl phthalate	4.2	U *1 cn	5.2	4.2	2.1	ug/L		06/08/23 00:03	1
Di-n-octyl phthalate	10	U M cn	11	10	5.2	ug/L		06/08/23 00:03	1
Fluoranthene	0.21	U cn	0.52	0.21	0.10	ug/L		06/08/23 00:03	1
Fluorene	0.25	U cn	0.52	0.25	0.13	ug/L		06/08/23 00:03	1
Hexachlorobenzene	0.23	U *1 cn	0.52	0.23	0.11	ug/L		06/08/23 00:03	1
Hexachlorobutadiene	1.0	U *1 cn	2.1	1.0	0.52	ug/L		06/08/23 00:03	1
Hexachlorocyclopentadiene	10	U cn	11	10	5.2	ug/L		06/08/23 00:03	1
Hexachloroethane	1.0	U *1 cn	5.2	1.0	0.52	ug/L		06/08/23 00:03	1
Indeno[1,2,3-cd]pyrene	0.23	U cn	0.52	0.23	0.11	ug/L		06/08/23 00:03	1
Isophorone	1.0	U cn	2.1	1.0	0.52	ug/L		06/08/23 00:03	1
Naphthalene	0.21	U M cn	0.52	0.21	0.10	ug/L		06/08/23 00:03	1
Nitrobenzene	1.0	U M cn	2.1	1.0	0.52	ug/L		06/08/23 00:03	1
N-Nitrosodi-n-propylamine	1.0	U M cn	2.1	1.0	0.52	ug/L		06/08/23 00:03	1
N-Nitrosodiphenylamine	1.0	U cn	2.1	1.0	0.52	ug/L		06/08/23 00:03	1
Pentachlorophenol	4.2	U *1 cn	5.2	4.2	1.0	ug/L		06/08/23 00:03	1
Phenanthrene	0.23	U *1 cn	0.52	0.23	0.11	ug/L		06/08/23 00:03	1
Phenol	1.0	U cn	2.1	1.0	0.52	ug/L		06/08/23 00:03	1
Pyrene	0.21	U cn	0.52	0.21	0.10	ug/L		06/08/23 00:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*80*	*cn*	*43 - 140*	*06/07/23 15:42*	*06/08/23 00:03*	*1*
2-Fluorobiphenyl (Surr)	*79*	*cn*	*44 - 119*	*06/07/23 15:42*	*06/08/23 00:03*	*1*
2-Fluorophenol (Surr)	*45*	*cn*	*19 - 119*	*06/07/23 15:42*	*06/08/23 00:03*	*1*
Nitrobenzene-d5 (Surr)	*68*	*cn*	*44 - 120*	*06/07/23 15:42*	*06/08/23 00:03*	*1*
Phenol-d5 (Surr)	*30*	*cn*	*10 - 120*	*06/07/23 15:42*	*06/08/23 00:03*	*1*
p-Terphenyl-d14 (Surr)	*77*	*cn*	*50 - 134*	*06/07/23 15:42*	*06/08/23 00:03*	*1*

Method: SW846 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.019	U	0.029	0.019	0.0095	ug/L		06/06/23 16:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,1,2,2-Tetrachloroethane (1C)	*70*		*46 - 136*	*06/06/23 02:19*	*06/06/23 16:37*	*1*
1,1,2,2-Tetrachloroethane (2C)	*73*		*46 - 136*	*06/06/23 02:19*	*06/06/23 16:37*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bromide	2.5	U	3.8	2.5	1.3	mg/L		06/22/23 23:11	5
Chloride	**11**	**D M**	7.5	6.0	3.0	mg/L		06/22/23 23:11	5
Sulfate	**28**	**D M**	7.5	5.0	2.5	mg/L		06/22/23 23:11	5

Method: SW846 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Calcium	**33000**		200	190	96	ug/L		06/08/23 00:34	1
Magnesium	**4700**		100	80	40	ug/L		06/08/23 00:34	1
Potassium	**2800**		500	410	200	ug/L		06/08/23 00:34	1
Sodium	**26000**		1000	480	240	ug/L		06/08/23 08:24	1

Client Sample ID: WUAMW01_05312023_LF

Lab Sample ID: 410-128748-3

Date Collected: 05/31/23 14:45

Matrix: Water

Date Received: 06/01/23 10:08

Method: SW846 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron, Dissolved	**110**	**J**	210	160	82	ug/L		06/07/23 11:47	1
Manganese, Dissolved	**190**		10	6.2	3.1	ug/L		06/07/23 11:47	1

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	**1.0**	**J**	2.0	1.7	0.68	ug/L		06/13/23 15:57	1
Lead	0.20	U	0.50	0.20	0.071	ug/L		06/13/23 15:57	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B-2011)	**110**		8.0	6.0	2.6	mg/L		06/06/23 20:40	1
Carbonate Alkalinity as CaCO3 (SM 2320B-2011)	6.0	U	8.0	6.0	2.6	mg/L		06/06/23 20:40	1
Total Alkalinity as CaCO3 to pH 4.5 (SM 2320B-2011)	**110**		8.0	6.0	2.6	mg/L		06/06/23 20:40	1
Nitrate as N (EPA 353.2)	0.090	U	0.10	0.090	0.040	mg/L		06/02/23 11:34	1
Nitrate Nitrite as N (EPA 353.2)	0.090	U	0.10	0.090	0.040	mg/L		06/08/23 09:12	1
Nitrite as N (EPA 353.2)	0.040	U	0.050	0.040	0.015	mg/L		06/02/23 08:27	1

Client Sample ID: FIELD_BLANK_05312023

Lab Sample ID: 410-128748-4

Date Collected: 05/31/23 14:50

Matrix: Water

Date Received: 06/01/23 10:08

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
1,1,1-Trichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
1,1,2,2-Tetrachloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
1,1,2-Trichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
1,1-Dichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
1,1-Dichloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
1,1-Dichloropropene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:54	1
1,2,3-Trichlorobenzene	1.0	U	5.0	1.0	0.40	ug/L		06/13/23 15:54	1
1,2,3-Trichloropropane	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:54	1
1,2,4-Trichlorobenzene	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 15:54	1
1,2,4-Trimethylbenzene	2.0	U	5.0	2.0	1.0	ug/L		06/13/23 15:54	1
1,2-Dibromo-3-Chloropropane	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 15:54	1
1,2-Dibromoethane (EDB)	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 15:54	1
1,2-Dichlorobenzene	0.50	U	5.0	0.50	0.20	ug/L		06/13/23 15:54	1
1,2-Dichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
1,2-Dichloropropane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
1,3,5-Trimethylbenzene	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 15:54	1
1,3-Dichlorobenzene	1.4	U	5.0	1.4	0.68	ug/L		06/13/23 15:54	1
1,3-Dichloropropane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
1,4-Dichlorobenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:54	1
2,2-Dichloropropane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
2-Butanone	1.0	U	10	1.0	0.50	ug/L		06/13/23 15:54	1
2-Chlorotoluene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:54	1
2-Hexanone	1.7	U	10	1.7	0.85	ug/L		06/13/23 15:54	1
4-Chlorotoluene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:54	1

Client: INTERA Inc
Job ID: 410-128748-1
Project/Site: WUA Data Gap Well for KAFB BFF

Client Sample ID: FIELD_BLANK_05312023
Lab Sample ID: 410-128748-4
Date Collected: 05/31/23 14:50
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
4-Methyl-2-pentanone	1.0	U	10	1.0	0.50	ug/L		06/13/23 15:54	1
Acetone	**5.0**	**J**	20	2.0	0.70	ug/L		06/13/23 15:54	1
Acrolein	6.0	U cn	100	6.0	3.0	ug/L		06/13/23 15:54	1
Acrylonitrile	3.2	U ^c cn	20	3.2	1.6	ug/L		06/13/23 15:54	1
Benzene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
Bromobenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:54	1
Bromochloromethane	0.50	U	5.0	0.50	0.20	ug/L		06/13/23 15:54	1
Bromodichloromethane	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 15:54	1
Bromoform	2.0	U	4.0	2.0	1.0	ug/L		06/13/23 15:54	1
Bromomethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
Carbon disulfide	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:54	1
Carbon tetrachloride	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
Chlorobenzene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
Chloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
Chloroform	**0.58**	**J**	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
Chloromethane	1.1	U ^c cn	2.0	1.1	0.55	ug/L		06/13/23 15:54	1
cis-1,2-Dichloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
cis-1,3-Dichloropropene	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 15:54	1
Dibromochloromethane	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 15:54	1
Dibromomethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
Dichlorodifluoromethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		06/13/23 15:54	1
Hexachlorobutadiene	4.0	U cn	5.0	4.0	2.0	ug/L		06/13/23 15:54	1
Isopropylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:54	1
m&p-Xylene	4.0	U	5.0	4.0	2.0	ug/L		06/13/23 15:54	1
Methyl tert-butyl ether	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 15:54	1
Methylene Chloride	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
Naphthalene	2.0	U	5.0	2.0	1.0	ug/L		06/13/23 15:54	1
n-Butylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:54	1
N-Propylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:54	1
o-Xylene	0.80	U	1.0	0.80	0.40	ug/L		06/13/23 15:54	1
p-Isopropyltoluene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:54	1
sec-Butylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:54	1
Styrene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 15:54	1
tert-Butylbenzene	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 15:54	1
Tetrachloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
Toluene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
trans-1,2-Dichloroethene	1.4	U	2.0	1.4	0.70	ug/L		06/13/23 15:54	1
trans-1,3-Dichloropropene	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 15:54	1
Trichloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
Trichlorofluoromethane	0.60	U *- cn	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
Vinyl acetate	4.0	U	10	4.0	2.0	ug/L		06/13/23 15:54	1
Vinyl chloride	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 15:54	1
Xylenes, Total	0.80	U	1.0	0.80	0.40	ug/L		06/13/23 15:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*81 - 118*		*06/13/23 15:54*	*1*
4-Bromofluorobenzene (Surr)	*95*		*85 - 114*		*06/13/23 15:54*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 119*		*06/13/23 15:54*	*1*
Toluene-d8 (Surr)	*105*		*89 - 112*		*06/13/23 15:54*	*1*

Client: INTERA Inc
Job ID: 410-128748-1
Project/Site: WUA Data Gap Well for KAFB BFF

Client Sample ID: Trip Blank
Lab Sample ID: 410-128748-5
Date Collected: 05/31/23 00:00
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
1,1,1-Trichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
1,1,2,2-Tetrachloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
1,1,2-Trichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
1,1-Dichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
1,1-Dichloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
1,1-Dichloropropene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 16:17	1
1,2,3-Trichlorobenzene	1.0	U	5.0	1.0	0.40	ug/L		06/13/23 16:17	1
1,2,3-Trichloropropane	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 16:17	1
1,2,4-Trichlorobenzene	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 16:17	1
1,2,4-Trimethylbenzene	2.0	U	5.0	2.0	1.0	ug/L		06/13/23 16:17	1
1,2-Dibromo-3-Chloropropane	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 16:17	1
1,2-Dibromoethane (EDB)	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 16:17	1
1,2-Dichlorobenzene	0.50	U	5.0	0.50	0.20	ug/L		06/13/23 16:17	1
1,2-Dichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
1,2-Dichloropropane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
1,3,5-Trimethylbenzene	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 16:17	1
1,3-Dichlorobenzene	1.4	U	5.0	1.4	0.68	ug/L		06/13/23 16:17	1
1,3-Dichloropropane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
1,4-Dichlorobenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 16:17	1
2,2-Dichloropropane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
2-Butanone	1.0	U	10	1.0	0.50	ug/L		06/13/23 16:17	1
2-Chlorotoluene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 16:17	1
2-Hexanone	1.7	U	10	1.7	0.85	ug/L		06/13/23 16:17	1
4-Chlorotoluene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 16:17	1
4-Methyl-2-pentanone	1.0	U	10	1.0	0.50	ug/L		06/13/23 16:17	1
Acetone	2.0	U	20	2.0	0.70	ug/L		06/13/23 16:17	1
Acrolein	6.0	U cn	100	6.0	3.0	ug/L		06/13/23 16:17	1
Acrylonitrile	3.2	U ^c cn	20	3.2	1.6	ug/L		06/13/23 16:17	1
Benzene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
Bromobenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 16:17	1
Bromochloromethane	0.50	U	5.0	0.50	0.20	ug/L		06/13/23 16:17	1
Bromodichloromethane	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 16:17	1
Bromoform	2.0	U	4.0	2.0	1.0	ug/L		06/13/23 16:17	1
Bromomethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
Carbon disulfide	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 16:17	1
Carbon tetrachloride	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
Chlorobenzene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
Chloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
Chloroform	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
Chloromethane	1.1	U ^c cn	2.0	1.1	0.55	ug/L		06/13/23 16:17	1
cis-1,2-Dichloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
cis-1,3-Dichloropropene	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 16:17	1
Dibromochloromethane	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 16:17	1
Dibromomethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
Dichlorodifluoromethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		06/13/23 16:17	1
Hexachlorobutadiene	4.0	U cn	5.0	4.0	2.0	ug/L		06/13/23 16:17	1
Isopropylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 16:17	1

Client: INTERA Inc
Job ID: 410-128748-1
Project/Site: WUA Data Gap Well for KAFB BFF

Client Sample ID: Trip Blank
Lab Sample ID: 410-128748-5
Date Collected: 05/31/23 00:00
Matrix: Water
Date Received: 06/01/23 10:08

Method: SW846 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
m&p-Xylene	4.0	U	5.0	4.0	2.0	ug/L		06/13/23 16:17	1
Methyl tert-butyl ether	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 16:17	1
Methylene Chloride	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
Naphthalene	2.0	U	5.0	2.0	1.0	ug/L		06/13/23 16:17	1
n-Butylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 16:17	1
N-Propylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 16:17	1
o-Xylene	0.80	U	1.0	0.80	0.40	ug/L		06/13/23 16:17	1
p-Isopropyltoluene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 16:17	1
sec-Butylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 16:17	1
Styrene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 16:17	1
tert-Butylbenzene	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 16:17	1
Tetrachloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
Toluene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
trans-1,2-Dichloroethene	1.4	U	2.0	1.4	0.70	ug/L		06/13/23 16:17	1
trans-1,3-Dichloropropene	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 16:17	1
Trichloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
Trichlorofluoromethane	0.60	U *- cn	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
Vinyl acetate	4.0	U	10	4.0	2.0	ug/L		06/13/23 16:17	1
Vinyl chloride	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 16:17	1
Xylenes, Total	0.80	U	1.0	0.80	0.40	ug/L		06/13/23 16:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*81 - 118*		*06/13/23 16:17*	*1*
4-Bromofluorobenzene (Surr)	*96*		*85 - 114*		*06/13/23 16:17*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 119*		*06/13/23 16:17*	*1*
Toluene-d8 (Surr)	*106*		*89 - 112*		*06/13/23 16:17*	*1*

Surrogate Summary

Client: INTERA Inc
Job ID: 410-128748-1
Project/Site: WUA Data Gap Well for KAFB BFF

Method: 8260D - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(81-118)	(85-114)	(80-119)	(89-112)
410-128748-1	WUAMW01_05312023_PDB	104	96	97	106
410-128748-2	EQPT_BLANK_05312023	106	95	98	106
410-128748-3	WUAMW01_05312023_LF	106	96	98	105
410-128748-4	FIELD_BLANK_05312023	102	95	97	105
410-128748-5	Trip Blank	104	96	96	106
LCS 410-385798/6	Lab Control Sample	102	98	97	106
LCS 410-385798/8	Lab Control Sample	103	97	96	106
LCSD 410-385798/7	Lab Control Sample Dup	102	96	95	107
LCSD 410-385798/9	Lab Control Sample Dup	105	97	96	106
MB 410-385798/12	Method Blank	102	95	96	105

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPHd14
Lab Sample ID	Client Sample ID	(43-140)	(44-119)	(19-119)	(44-120)	(10-120)	(50-134)
410-128748-1	WUAMW01_05312023_PDB	79 cn	78 cn	35 cn	56 cn	25 cn	86 cn
410-128748-3	WUAMW01_05312023_LF	80 cn	79 cn	45 cn	68 cn	30 cn	77 cn
LCS 410-384020/2-A	Lab Control Sample	76	70	46	53	35	89
LCSD 410-384020/3-A	Lab Control Sample Dup	91	86	50	61	36	92
MB 410-384020/1-A	Method Blank	76	54	37	42 S1-	26	75

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		1122TCA1	1122TCA1	1122TCA2	1122TCA2
Lab Sample ID	Client Sample ID	(46-136)	(46-136)	(46-136)	(46-136)
410-128748-1	WUAMW01_05312023_PDB	72	72	74	74
410-128748-3	WUAMW01_05312023_LF	70	70	73	73
LCS 410-383228/2-A	Lab Control Sample	79	79	80	80
LCSD 410-383228/3-A	Lab Control Sample Dup	78	78	80	80
MB 410-383228/1-A	Method Blank	73	73	77	77

Surrogate Legend

1122TCA = 1,1,2,2-Tetrachloroethane

Method: 8260D - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 410-385798/12
Matrix: Water
Analysis Batch: 385798

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
1,1,1-Trichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
1,1,2,2-Tetrachloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
1,1,2-Trichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
1,1-Dichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
1,1-Dichloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
1,1-Dichloropropene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 12:35	1
1,2,3-Trichlorobenzene	1.0	U	5.0	1.0	0.40	ug/L		06/13/23 12:35	1
1,2,3-Trichloropropane	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 12:35	1
1,2,4-Trichlorobenzene	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 12:35	1
1,2,4-Trimethylbenzene	2.0	U	5.0	2.0	1.0	ug/L		06/13/23 12:35	1
1,2-Dibromo-3-Chloropropane	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 12:35	1
1,2-Dibromoethane (EDB)	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 12:35	1
1,2-Dichlorobenzene	0.50	U	5.0	0.50	0.20	ug/L		06/13/23 12:35	1
1,2-Dichloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
1,2-Dichloropropane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
1,3,5-Trimethylbenzene	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 12:35	1
1,3-Dichlorobenzene	1.4	U	5.0	1.4	0.68	ug/L		06/13/23 12:35	1
1,3-Dichloropropane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
1,4-Dichlorobenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 12:35	1
2,2-Dichloropropane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
2-Butanone	1.0	U	10	1.0	0.50	ug/L		06/13/23 12:35	1
2-Chlorotoluene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 12:35	1
2-Hexanone	1.7	U	10	1.7	0.85	ug/L		06/13/23 12:35	1
4-Chlorotoluene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 12:35	1
4-Methyl-2-pentanone	1.0	U	10	1.0	0.50	ug/L		06/13/23 12:35	1
Acetone	2.0	U	20	2.0	0.70	ug/L		06/13/23 12:35	1
Acrolein	6.0	U	100	6.0	3.0	ug/L		06/13/23 12:35	1
Acrylonitrile	3.2	U	20	3.2	1.6	ug/L		06/13/23 12:35	1
Benzene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
Bromobenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 12:35	1
Bromochloromethane	0.50	U	5.0	0.50	0.20	ug/L		06/13/23 12:35	1
Bromodichloromethane	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 12:35	1
Bromoform	2.0	U	4.0	2.0	1.0	ug/L		06/13/23 12:35	1
Bromomethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
Carbon disulfide	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 12:35	1
Carbon tetrachloride	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
Chlorobenzene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
Chloroethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
Chloroform	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
Chloromethane	1.1	U	2.0	1.1	0.55	ug/L		06/13/23 12:35	1
cis-1,2-Dichloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
cis-1,3-Dichloropropene	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 12:35	1
Dibromochloromethane	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 12:35	1
Dibromomethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
Dichlorodifluoromethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
Ethylbenzene	0.80	U	1.0	0.80	0.40	ug/L		06/13/23 12:35	1
Hexachlorobutadiene	4.0	U	5.0	4.0	2.0	ug/L		06/13/23 12:35	1

Method: 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 410-385798/12
Matrix: Water
Analysis Batch: 385798

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Isopropylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 12:35	1
m&p-Xylene	4.0	U	5.0	4.0	2.0	ug/L		06/13/23 12:35	1
Methyl tert-butyl ether	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 12:35	1
Methylene Chloride	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
Naphthalene	2.0	U	5.0	2.0	1.0	ug/L		06/13/23 12:35	1
n-Butylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 12:35	1
N-Propylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 12:35	1
o-Xylene	0.80	U	1.0	0.80	0.40	ug/L		06/13/23 12:35	1
p-Isopropyltoluene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 12:35	1
sec-Butylbenzene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 12:35	1
Styrene	0.60	U	5.0	0.60	0.30	ug/L		06/13/23 12:35	1
tert-Butylbenzene	1.0	U	5.0	1.0	0.30	ug/L		06/13/23 12:35	1
Tetrachloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
Toluene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
trans-1,2-Dichloroethene	1.4	U	2.0	1.4	0.70	ug/L		06/13/23 12:35	1
trans-1,3-Dichloropropene	0.50	U	1.0	0.50	0.20	ug/L		06/13/23 12:35	1
Trichloroethene	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
Trichlorofluoromethane	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
Vinyl acetate	4.0	U	10	4.0	2.0	ug/L		06/13/23 12:35	1
Vinyl chloride	0.60	U	1.0	0.60	0.30	ug/L		06/13/23 12:35	1
Xylenes, Total	0.80	U	1.0	0.80	0.40	ug/L		06/13/23 12:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*81 - 118*		*06/13/23 12:35*	*1*
4-Bromofluorobenzene (Surr)	*95*		*85 - 114*		*06/13/23 12:35*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 119*		*06/13/23 12:35*	*1*
Toluene-d8 (Surr)	*105*		*89 - 112*		*06/13/23 12:35*	*1*

Lab Sample ID: LCS 410-385798/6
Matrix: Water
Analysis Batch: 385798

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	20.0	16.8		ug/L		84	78 - 124
1,1,1-Trichloroethane	20.0	15.8		ug/L		79	74 - 131
1,1,2,2-Tetrachloroethane	20.0	19.8		ug/L		99	71 - 121
1,1,2-Trichloroethane	20.0	18.5		ug/L		92	80 - 119
1,1-Dichloroethane	20.0	19.1		ug/L		96	77 - 125
1,1-Dichloroethene	20.0	17.4		ug/L		87	71 - 131
1,1-Dichloropropene	20.0	18.2		ug/L		91	79 - 125
1,2,3-Trichlorobenzene	20.0	17.8		ug/L		89	69 - 129
1,2,3-Trichloropropane	20.0	18.2		ug/L		91	73 - 122
1,2,4-Trichlorobenzene	20.0	16.8		ug/L		84	69 - 130
1,2,4-Trimethylbenzene	20.0	18.1		ug/L		90	76 - 124
1,2-Dibromo-3-Chloropropane	20.0	15.6		ug/L		78	62 - 128
1,2-Dibromoethane (EDB)	20.0	17.8		ug/L		89	77 - 121
1,2-Dichlorobenzene	20.0	17.8		ug/L		89	80 - 119
1,2-Dichloroethane	20.0	16.6		ug/L		83	73 - 128

Method: 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 410-385798/6
Matrix: Water
Analysis Batch: 385798

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichloropropane	20.0	20.3		ug/L		102	78 - 122
1,3,5-Trimethylbenzene	20.0	18.3		ug/L		92	75 - 124
1,3-Dichlorobenzene	20.0	17.7		ug/L		88	80 - 119
1,3-Dichloropropane	20.0	20.2		ug/L		101	80 - 119
1,4-Dichlorobenzene	20.0	19.1		ug/L		95	79 - 118
2,2-Dichloropropane	20.0	16.6		ug/L		83	60 - 139
2-Butanone	250	259		ug/L		103	56 - 143
2-Chlorotoluene	20.0	18.1		ug/L		90	79 - 122
2-Hexanone	250	258		ug/L		103	57 - 139
4-Chlorotoluene	20.0	18.1		ug/L		90	78 - 122
4-Methyl-2-pentanone	250	251		ug/L		100	67 - 130
Acetone	250	236		ug/L		94	39 - 160
Acrolein	150	140		ug/L		93	39 - 155
Acrylonitrile	100	106		ug/L		106	63 - 135
Benzene	20.0	19.0		ug/L		95	79 - 120
Bromobenzene	20.0	17.7		ug/L		89	80 - 120
Bromochloromethane	20.0	17.2		ug/L		86	78 - 123
Bromodichloromethane	20.0	16.5		ug/L		83	79 - 125
Bromoform	20.0	15.3		ug/L		76	66 - 130
Bromomethane	20.0	15.7		ug/L		78	53 - 141
Carbon disulfide	20.0	17.5		ug/L		87	64 - 133
Carbon tetrachloride	20.0	15.1		ug/L		75	72 - 136
Chlorobenzene	20.0	18.0		ug/L		90	82 - 118
Chloroethane	20.0	18.1		ug/L		91	60 - 138
Chloroform	20.0	17.0		ug/L		85	79 - 124
Chloromethane	20.0	17.3		ug/L		87	50 - 139
cis-1,2-Dichloroethene	20.0	17.8		ug/L		89	78 - 123
cis-1,3-Dichloropropene	20.0	17.8		ug/L		89	75 - 124
Dibromochloromethane	20.0	16.7		ug/L		83	74 - 126
Dibromomethane	20.0	17.3		ug/L		86	79 - 123
Dichlorodifluoromethane	20.0	9.55		ug/L		48	32 - 152
Ethylbenzene	20.0	18.5		ug/L		93	79 - 121
Hexachlorobutadiene	20.0	18.4		ug/L		92	66 - 134
Isopropylbenzene	20.0	18.1		ug/L		91	72 - 131
m&p-Xylene	40.0	37.3		ug/L		93	80 - 121
Methyl tert-butyl ether	20.0	16.5		ug/L		83	71 - 124
Methylene Chloride	20.0	18.6		ug/L		93	74 - 124
Naphthalene	20.0	17.6		ug/L		88	61 - 128
n-Butylbenzene	20.0	19.3		ug/L		96	75 - 128
N-Propylbenzene	20.0	19.2		ug/L		96	76 - 126
o-Xylene	20.0	18.1		ug/L		91	78 - 122
p-Isopropyltoluene	20.0	18.5		ug/L		93	77 - 127
sec-Butylbenzene	20.0	18.9		ug/L		94	77 - 126
Styrene	20.0	17.9		ug/L		90	78 - 123
tert-Butylbenzene	20.0	17.9		ug/L		89	78 - 124
Tetrachloroethene	20.0	17.0		ug/L		85	74 - 129
Toluene	20.0	18.6		ug/L		93	80 - 121
trans-1,2-Dichloroethene	20.0	17.0		ug/L		85	75 - 124
trans-1,3-Dichloropropene	20.0	18.2		ug/L		91	73 - 127

Method: 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 410-385798/6
Matrix: Water
Analysis Batch: 385798

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Trichloroethene			20.0	16.7		ug/L		84	79 - 123		
Trichlorofluoromethane			20.0	11.9	M *-	ug/L		60	65 - 141		
Vinyl chloride			20.0	16.2		ug/L		81	58 - 137		
Xylenes, Total			60.0	55.4		ug/L		92	79 - 121		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*81 - 118*
4-Bromofluorobenzene (Surr)	*98*		*85 - 114*
Dibromofluoromethane (Surr)	*97*		*80 - 119*
Toluene-d8 (Surr)	*106*		*89 - 112*

Lab Sample ID: LCS 410-385798/8
Matrix: Water
Analysis Batch: 385798

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Vinyl acetate			100	99.6		ug/L		100	54 - 146		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*81 - 118*
4-Bromofluorobenzene (Surr)	*97*		*85 - 114*
Dibromofluoromethane (Surr)	*96*		*80 - 119*
Toluene-d8 (Surr)	*106*		*89 - 112*

Lab Sample ID: LCSD 410-385798/7
Matrix: Water
Analysis Batch: 385798

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane			20.0	17.0		ug/L		85	78 - 124	1	20
1,1,1-Trichloroethane			20.0	16.1		ug/L		80	74 - 131	2	20
1,1,2,2-Tetrachloroethane			20.0	20.0		ug/L		100	71 - 121	1	20
1,1,2-Trichloroethane			20.0	18.7		ug/L		94	80 - 119	1	20
1,1-Dichloroethane			20.0	19.3		ug/L		97	77 - 125	1	20
1,1-Dichloroethene			20.0	17.5		ug/L		88	71 - 131	1	20
1,1-Dichloropropene			20.0	19.0		ug/L		95	79 - 125	4	20
1,2,3-Trichlorobenzene			20.0	18.1		ug/L		90	69 - 129	1	20
1,2,3-Trichloropropane			20.0	18.2		ug/L		91	73 - 122	0	20
1,2,4-Trichlorobenzene			20.0	17.7		ug/L		89	69 - 130	6	20
1,2,4-Trimethylbenzene			20.0	18.3		ug/L		91	76 - 124	1	20
1,2-Dibromo-3-Chloropropane			20.0	15.5		ug/L		77	62 - 128	1	20
1,2-Dibromoethane (EDB)			20.0	17.9		ug/L		90	77 - 121	1	20
1,2-Dichlorobenzene			20.0	17.7		ug/L		88	80 - 119	1	20
1,2-Dichloroethane			20.0	16.7		ug/L		84	73 - 128	0	20
1,2-Dichloropropane			20.0	20.2		ug/L		101	78 - 122	1	20
1,3,5-Trimethylbenzene			20.0	18.4		ug/L		92	75 - 124	1	20
1,3-Dichlorobenzene			20.0	17.9		ug/L		90	80 - 119	1	20
1,3-Dichloropropane			20.0	19.9		ug/L		99	80 - 119	1	20

Method: 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 410-385798/7
Matrix: Water
Analysis Batch: 385798

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dichlorobenzene	20.0	18.7		ug/L		93	79 - 118	2	20
2,2-Dichloropropane	20.0	16.9		ug/L		85	60 - 139	2	20
2-Butanone	250	257		ug/L		103	56 - 143	1	20
2-Chlorotoluene	20.0	18.3		ug/L		91	79 - 122	1	20
2-Hexanone	250	259		ug/L		104	57 - 139	1	20
4-Chlorotoluene	20.0	18.6		ug/L		93	78 - 122	3	20
4-Methyl-2-pentanone	250	249		ug/L		100	67 - 130	1	20
Acetone	250	238		ug/L		95	39 - 160	1	20
Acrolein	150	145		ug/L		97	39 - 155	4	20
Acrylonitrile	100	106		ug/L		106	63 - 135	0	20
Benzene	20.0	19.3		ug/L		97	79 - 120	2	20
Bromobenzene	20.0	17.8		ug/L		89	80 - 120	1	20
Bromochloromethane	20.0	17.7		ug/L		89	78 - 123	3	20
Bromodichloromethane	20.0	16.8		ug/L		84	79 - 125	2	20
Bromoform	20.0	15.5		ug/L		77	66 - 130	1	20
Bromomethane	20.0	15.3		ug/L		77	53 - 141	2	20
Carbon disulfide	20.0	17.7		ug/L		88	64 - 133	1	20
Carbon tetrachloride	20.0	14.9		ug/L		75	72 - 136	1	20
Chlorobenzene	20.0	18.4		ug/L		92	82 - 118	2	20
Chloroethane	20.0	18.3		ug/L		92	60 - 138	1	20
Chloroform	20.0	17.0		ug/L		85	79 - 124	0	20
Chloromethane	20.0	17.7		ug/L		89	50 - 139	2	20
cis-1,2-Dichloroethene	20.0	18.0		ug/L		90	78 - 123	1	20
cis-1,3-Dichloropropene	20.0	17.8		ug/L		89	75 - 124	0	20
Dibromochloromethane	20.0	16.8		ug/L		84	74 - 126	1	20
Dibromomethane	20.0	17.5		ug/L		87	79 - 123	1	20
Dichlorodifluoromethane	20.0	10.1		ug/L		51	32 - 152	6	20
Ethylbenzene	20.0	18.6		ug/L		93	79 - 121	1	20
Hexachlorobutadiene	20.0	18.5		ug/L		93	66 - 134	1	20
Isopropylbenzene	20.0	18.6		ug/L		93	72 - 131	3	20
m&p-Xylene	40.0	37.8		ug/L		94	80 - 121	1	20
Methyl tert-butyl ether	20.0	16.8		ug/L		84	71 - 124	1	20
Methylene Chloride	20.0	18.6		ug/L		93	74 - 124	0	20
Naphthalene	20.0	17.9		ug/L		90	61 - 128	2	20
n-Butylbenzene	20.0	19.6		ug/L		98	75 - 128	2	20
N-Propylbenzene	20.0	19.4		ug/L		97	76 - 126	1	20
o-Xylene	20.0	18.6		ug/L		93	78 - 122	3	20
p-Isopropyltoluene	20.0	18.7		ug/L		94	77 - 127	1	20
sec-Butylbenzene	20.0	19.1		ug/L		95	77 - 126	1	20
Styrene	20.0	17.9		ug/L		90	78 - 123	0	20
tert-Butylbenzene	20.0	18.3		ug/L		92	78 - 124	3	20
Tetrachloroethene	20.0	17.5		ug/L		87	74 - 129	3	20
Toluene	20.0	19.1		ug/L		95	80 - 121	2	20
trans-1,2-Dichloroethene	20.0	17.5		ug/L		88	75 - 124	3	20
trans-1,3-Dichloropropene	20.0	18.4		ug/L		92	73 - 127	1	20
Trichloroethene	20.0	17.1		ug/L		86	79 - 123	2	20
Trichlorofluoromethane	20.0	12.1	M *-	ug/L		60	65 - 141	1	20
Vinyl chloride	20.0	16.4		ug/L		82	58 - 137	2	20
Xylenes, Total	60.0	56.4		ug/L		94	79 - 121	2	20

Method: 8260D - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		81 - 118
4-Bromofluorobenzene (Surr)	96		85 - 114
Dibromofluoromethane (Surr)	95		80 - 119
Toluene-d8 (Surr)	107		89 - 112

Lab Sample ID: LCSD 410-385798/9
Matrix: Water
Analysis Batch: 385798

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Vinyl acetate			100	99.5		ug/L		99	54 - 146	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		81 - 118
4-Bromofluorobenzene (Surr)	97		85 - 114
Dibromofluoromethane (Surr)	96		80 - 119
Toluene-d8 (Surr)	106		89 - 112

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 410-384020/1-A
Matrix: Water
Analysis Batch: 384135

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 384020

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1'-Biphenyl	1.0	U	2.0	1.0	0.50	ug/L		06/07/23 22:35	1
2,2'-oxybis[1-chloropropane]	1.0	U	2.0	1.0	0.50	ug/L		06/07/23 22:35	1
2,4,5-Trichlorophenol	1.0	U	2.0	1.0	0.50	ug/L		06/07/23 22:35	1
2,4,6-Trichlorophenol	1.0	U	2.0	1.0	0.50	ug/L		06/07/23 22:35	1
2,4-Dichlorophenol	1.0	U	2.0	1.0	0.50	ug/L		06/07/23 22:35	1
2,4-Dimethylphenol	9.0	U	10	9.0	3.0	ug/L		06/07/23 22:35	1
2,4-Dinitrophenol	28	U	30	28	14	ug/L		06/07/23 22:35	1
2,4-Dinitrotoluene	2.0	U	5.0	2.0	1.0	ug/L		06/07/23 22:35	1
2,6-Dinitrotoluene	1.0	U	2.0	1.0	0.50	ug/L		06/07/23 22:35	1
2-Chloronaphthalene	0.80	U	1.0	0.80	0.40	ug/L		06/07/23 22:35	1
2-Chlorophenol	1.0	U	2.0	1.0	0.50	ug/L		06/07/23 22:35	1
2-Methylnaphthalene	0.20	U	0.50	0.20	0.10	ug/L		06/07/23 22:35	1
2-Methylphenol	1.0	U	2.0	1.0	0.50	ug/L		06/07/23 22:35	1
2-Nitroaniline	2.0	U	5.0	2.0	1.0	ug/L		06/07/23 22:35	1
2-Nitrophenol	2.0	U	5.0	2.0	1.0	ug/L		06/07/23 22:35	1
3,3'-Dichlorobenzidine	8.0	U	10	8.0	4.0	ug/L		06/07/23 22:35	1
4,6-Dinitro-2-methylphenol	20	U	21	20	8.0	ug/L		06/07/23 22:35	1
4-Chloro-3-methylphenol	2.0	U	5.0	2.0	1.0	ug/L		06/07/23 22:35	1
4-Chloroaniline	9.0	U	10	9.0	4.0	ug/L		06/07/23 22:35	1
4-Chlorophenyl phenyl ether	1.0	U	2.0	1.0	0.50	ug/L		06/07/23 22:35	1
4-Methylphenol	1.0	U	2.0	1.0	0.50	ug/L		06/07/23 22:35	1
4-Nitroaniline	2.0	U	3.0	2.0	0.90	ug/L		06/07/23 22:35	1
4-Nitrophenol	20	U	30	20	10	ug/L		06/07/23 22:35	1
Acenaphthene	0.20	U	0.50	0.20	0.10	ug/L		06/07/23 22:35	1
Acenaphthylene	0.20	U	0.50	0.20	0.10	ug/L		06/07/23 22:35	1
Acetophenone	2.0	U	5.0	2.0	1.0	ug/L		06/07/23 22:35	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 410-384020/1-A
Matrix: Water
Analysis Batch: 384135

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 384020

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Anthracene	0.20	U	0.50	0.20	0.10	ug/L		06/07/23 22:35	1
Atrazine	2.0	U	5.0	2.0	1.0	ug/L		06/07/23 22:35	1
Benzaldehyde	2.0	U	5.0	2.0	1.0	ug/L		06/07/23 22:35	1
Benzo[a]anthracene	0.20	U	0.50	0.20	0.10	ug/L		06/07/23 22:35	1
Benzo[a]pyrene	0.22	U	0.50	0.22	0.11	ug/L		06/07/23 22:35	1
Benzo[b]fluoranthene	0.20	U	0.50	0.20	0.10	ug/L		06/07/23 22:35	1
Benzo[g,h,i]perylene	0.20	U	0.50	0.20	0.10	ug/L		06/07/23 22:35	1
Benzo[k]fluoranthene	0.20	U	0.50	0.20	0.10	ug/L		06/07/23 22:35	1
Bis(2-chloroethoxy)methane	1.0	U	2.0	1.0	0.50	ug/L		06/07/23 22:35	1
Bis(2-chloroethyl)ether	1.0	U	2.0	1.0	0.50	ug/L		06/07/23 22:35	1
Bis(2-ethylhexyl) phthalate	4.0	U	5.0	4.0	2.0	ug/L		06/07/23 22:35	1
Butyl benzyl phthalate	4.0	U	5.0	4.0	2.0	ug/L		06/07/23 22:35	1
Caprolactam	6.0	U	7.0	6.0	3.0	ug/L		06/07/23 22:35	1
Carbazole	1.0	U	2.0	1.0	0.50	ug/L		06/07/23 22:35	1
Chrysene	0.20	U	0.50	0.20	0.10	ug/L		06/07/23 22:35	1
Dibenz(a,h)anthracene	0.20	U	0.50	0.20	0.10	ug/L		06/07/23 22:35	1
Dibenzofuran	1.0	U	2.0	1.0	0.50	ug/L		06/07/23 22:35	1
Diethyl phthalate	4.0	U	5.0	4.0	2.0	ug/L		06/07/23 22:35	1
Dimethyl phthalate	4.0	U	5.0	4.0	2.0	ug/L		06/07/23 22:35	1
Di-n-butyl phthalate	4.0	U	5.0	4.0	2.0	ug/L		06/07/23 22:35	1
Di-n-octyl phthalate	10	U M	11	10	5.0	ug/L		06/07/23 22:35	1
Fluoranthene	0.20	U	0.50	0.20	0.10	ug/L		06/07/23 22:35	1
Fluorene	0.24	U	0.50	0.24	0.12	ug/L		06/07/23 22:35	1
Hexachlorobenzene	0.22	U	0.50	0.22	0.11	ug/L		06/07/23 22:35	1
Hexachlorobutadiene	1.0	U	2.0	1.0	0.50	ug/L		06/07/23 22:35	1
Hexachlorocyclopentadiene	10	U	11	10	5.0	ug/L		06/07/23 22:35	1
Hexachloroethane	1.0	U	5.0	1.0	0.50	ug/L		06/07/23 22:35	1
Indeno[1,2,3-cd]pyrene	0.22	U	0.50	0.22	0.11	ug/L		06/07/23 22:35	1
Isophorone	1.0	U	2.0	1.0	0.50	ug/L		06/07/23 22:35	1
Naphthalene	0.20	U	0.50	0.20	0.10	ug/L		06/07/23 22:35	1
Nitrobenzene	1.0	U	2.0	1.0	0.50	ug/L		06/07/23 22:35	1
N-Nitrosodi-n-propylamine	1.0	U	2.0	1.0	0.50	ug/L		06/07/23 22:35	1
N-Nitrosodiphenylamine	1.0	U M	2.0	1.0	0.50	ug/L		06/07/23 22:35	1
Pentachlorophenol	4.0	U	5.0	4.0	1.0	ug/L		06/07/23 22:35	1
Phenanthrene	0.22	U	0.50	0.22	0.11	ug/L		06/07/23 22:35	1
Phenol	1.0	U	2.0	1.0	0.50	ug/L		06/07/23 22:35	1
Pyrene	0.20	U M	0.50	0.20	0.10	ug/L		06/07/23 22:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*76*		*43 - 140*	*06/07/23 15:42*	*06/07/23 22:35*	*1*
2-Fluorobiphenyl (Surr)	*54*		*44 - 119*	*06/07/23 15:42*	*06/07/23 22:35*	*1*
2-Fluorophenol (Surr)	*37*		*19 - 119*	*06/07/23 15:42*	*06/07/23 22:35*	*1*
Nitrobenzene-d5 (Surr)	*42*	*S1-*	*44 - 120*	*06/07/23 15:42*	*06/07/23 22:35*	*1*
Phenol-d5 (Surr)	*26*		*10 - 120*	*06/07/23 15:42*	*06/07/23 22:35*	*1*
p-Terphenyl-d14 (Surr)	*75*		*50 - 134*	*06/07/23 15:42*	*06/07/23 22:35*	*1*

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 410-384020/2-A
Matrix: Water
Analysis Batch: 384135

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 384020

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1'-Biphenyl	50.0	39.8		ug/L		80	49 - 115
2,2'-oxybis[1-chloropropane]	50.0	26.6		ug/L		53	37 - 130
2,4,5-Trichlorophenol	50.0	45.0		ug/L		90	53 - 123
2,4,6-Trichlorophenol	50.0	43.6		ug/L		87	50 - 125
2,4-Dichlorophenol	50.0	39.0		ug/L		78	47 - 121
2,4-Dimethylphenol	50.0	39.2		ug/L		78	31 - 124
2,4-Dinitrophenol	100	73.2		ug/L		73	23 - 143
2,4-Dinitrotoluene	50.0	42.8		ug/L		86	57 - 128
2,6-Dinitrotoluene	50.0	42.3		ug/L		85	57 - 124
2-Chloronaphthalene	50.0	38.1		ug/L		76	40 - 116
2-Chlorophenol	50.0	35.2		ug/L		70	38 - 117
2-Methylnaphthalene	50.0	34.2		ug/L		68	40 - 121
2-Methylphenol	50.0	33.4		ug/L		67	30 - 117
2-Nitroaniline	50.0	40.4		ug/L		81	55 - 127
2-Nitrophenol	50.0	37.3		ug/L		75	47 - 123
3,3'-Dichlorobenzidine	100	71.2		ug/L		71	27 - 129
4,6-Dinitro-2-methylphenol	100	91.5		ug/L		91	44 - 137
4-Chloro-3-methylphenol	50.0	36.4		ug/L		73	52 - 119
4-Chloroaniline	50.0	30.2		ug/L		60	33 - 117
4-Chlorophenyl phenyl ether	50.0	39.4		ug/L		79	53 - 121
4-Methylphenol	50.0	31.4		ug/L		63	25 - 120
4-Nitroaniline	50.0	37.1		ug/L		74	55 - 126
4-Nitrophenol	100	45.6		ug/L		46	17 - 120
Acenaphthene	50.0	41.0		ug/L		82	47 - 122
Acenaphthylene	50.0	42.0		ug/L		84	41 - 130
Acetophenone	50.0	30.3		ug/L		61	46 - 118
Anthracene	50.0	43.4		ug/L		87	57 - 123
Atrazine	50.0	44.7		ug/L		89	44 - 142
Benzaldehyde	50.0	26.6		ug/L		53	36 - 120
Benzo[a]anthracene	50.0	45.4		ug/L		91	58 - 125
Benzo[a]pyrene	50.0	43.7		ug/L		87	54 - 128
Benzo[b]fluoranthene	50.0	41.1		ug/L		82	53 - 131
Benzo[g,h,i]perylene	50.0	49.9		ug/L		100	50 - 134
Benzo[k]fluoranthene	50.0	48.5		ug/L		97	57 - 129
Bis(2-chloroethoxy)methane	50.0	36.5		ug/L		73	48 - 120
Bis(2-chloroethyl)ether	50.0	29.4		ug/L		59	43 - 118
Bis(2-ethylhexyl) phthalate	50.0	43.4		ug/L		87	55 - 135
Butyl benzyl phthalate	50.0	42.3		ug/L		85	53 - 134
Caprolactam	50.0	11.1		ug/L		22	12 - 40
Carbazole	50.0	42.6		ug/L		85	60 - 122
Chrysene	50.0	45.5		ug/L		91	59 - 123
Dibenz(a,h)anthracene	50.0	46.6		ug/L		93	51 - 134
Dibenzofuran	50.0	40.1		ug/L		80	53 - 118
Diethyl phthalate	50.0	39.4		ug/L		79	56 - 125
Dimethyl phthalate	50.0	35.0		ug/L		70	45 - 127
Di-n-butyl phthalate	50.0	44.4		ug/L		89	59 - 127
Di-n-octyl phthalate	50.0	40.7		ug/L		81	51 - 140
Fluoranthene	50.0	44.6		ug/L		89	57 - 128

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 410-384020/2-A
Matrix: Water
Analysis Batch: 384135

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 384020

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Fluorene			50.0	40.2		ug/L		80	52 - 124		
Hexachlorobenzene			50.0	41.4		ug/L		83	53 - 125		
Hexachlorobutadiene			50.0	29.3		ug/L		59	22 - 124		
Hexachlorocyclopentadiene			50.0	15.9		ug/L		32	10 - 82		
Hexachloroethane			50.0	23.0		ug/L		46	21 - 115		
Indeno[1,2,3-cd]pyrene			50.0	45.4		ug/L		91	52 - 134		
Isophorone			50.0	34.9		ug/L		70	42 - 124		
Naphthalene			50.0	32.4		ug/L		65	40 - 121		
Nitrobenzene			50.0	30.9		ug/L		62	45 - 121		
N-Nitrosodi-n-propylamine			50.0	28.2		ug/L		56	49 - 119		
N-Nitrosodiphenylamine			42.5	39.7		ug/L		93	51 - 123		
Pentachlorophenol			100	79.8		ug/L		80	35 - 138		
Phenanthrene			50.0	42.4		ug/L		85	59 - 120		
Phenol			50.0	19.9		ug/L		40	22 - 69		
Pyrene			50.0	45.4		ug/L		91	57 - 126		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*76*		*43 - 140*
2-Fluorobiphenyl (Surr)	*70*		*44 - 119*
2-Fluorophenol (Surr)	*46*		*19 - 119*
Nitrobenzene-d5 (Surr)	*53*		*44 - 120*
Phenol-d5 (Surr)	*35*		*10 - 120*
p-Terphenyl-d14 (Surr)	*89*		*50 - 134*

Lab Sample ID: LCSD 410-384020/3-A
Matrix: Water
Analysis Batch: 384135

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 384020

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1'-Biphenyl			50.0	47.0		ug/L		94	49 - 115	16	20
2,2'-oxybis[1-chloropropane]			50.0	33.2	*1	ug/L		66	37 - 130	22	20
2,4,5-Trichlorophenol			50.0	53.3		ug/L		107	53 - 123	17	20
2,4,6-Trichlorophenol			50.0	50.3		ug/L		101	50 - 125	14	20
2,4-Dichlorophenol			50.0	45.0		ug/L		90	47 - 121	14	20
2,4-Dimethylphenol			50.0	42.9		ug/L		86	31 - 124	9	20
2,4-Dinitrophenol			100	88.7		ug/L		89	23 - 143	19	20
2,4-Dinitrotoluene			50.0	53.2	*1	ug/L		106	57 - 128	22	20
2,6-Dinitrotoluene			50.0	52.7	*1	ug/L		105	57 - 124	22	20
2-Chloronaphthalene			50.0	45.4		ug/L		91	40 - 116	18	20
2-Chlorophenol			50.0	37.9		ug/L		76	38 - 117	7	20
2-Methylnaphthalene			50.0	39.5		ug/L		79	40 - 121	14	20
2-Methylphenol			50.0	38.1		ug/L		76	30 - 117	13	20
2-Nitroaniline			50.0	51.3	*1	ug/L		103	55 - 127	24	20
2-Nitrophenol			50.0	42.8		ug/L		86	47 - 123	14	20
3,3'-Dichlorobenzidine			100	77.7		ug/L		78	27 - 129	9	20
4,6-Dinitro-2-methylphenol			100	119	*1	ug/L		119	44 - 137	26	20
4-Chloro-3-methylphenol			50.0	40.3		ug/L		81	52 - 119	10	20
4-Chloroaniline			50.0	36.4		ug/L		73	33 - 117	19	20

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 410-384020/3-A
Matrix: Water
Analysis Batch: 384135

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 384020

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
4-Chlorophenyl phenyl ether	50.0	46.6		ug/L		93	53 - 121	17	20
4-Methylphenol	50.0	34.7		ug/L		69	25 - 120	10	20
4-Nitroaniline	50.0	41.4		ug/L		83	55 - 126	11	30
4-Nitrophenol	100	54.2		ug/L		54	17 - 120	17	30
Acenaphthene	50.0	47.3		ug/L		95	47 - 122	14	20
Acenaphthylene	50.0	47.0		ug/L		94	41 - 130	11	20
Acetophenone	50.0	35.1		ug/L		70	46 - 118	15	20
Anthracene	50.0	53.8	*1	ug/L		108	57 - 123	21	20
Atrazine	50.0	54.4		ug/L		109	44 - 142	20	20
Benzaldehyde	50.0	33.1		ug/L		66	36 - 120	22	30
Benzo[a]anthracene	50.0	47.8		ug/L		96	58 - 125	5	20
Benzo[a]pyrene	50.0	52.7		ug/L		105	54 - 128	19	20
Benzo[b]fluoranthene	50.0	49.8		ug/L		100	53 - 131	19	20
Benzo[g,h,i]perylene	50.0	51.9		ug/L		104	50 - 134	4	20
Benzo[k]fluoranthene	50.0	54.8		ug/L		110	57 - 129	12	20
Bis(2-chloroethoxy)methane	50.0	40.4		ug/L		81	48 - 120	10	20
Bis(2-chloroethyl)ether	50.0	34.1		ug/L		68	43 - 118	15	20
Bis(2-ethylhexyl) phthalate	50.0	47.7		ug/L		95	55 - 135	9	20
Butyl benzyl phthalate	50.0	48.2		ug/L		96	53 - 134	13	20
Caprolactam	50.0	10.6		ug/L		21	12 - 40	5	30
Carbazole	50.0	51.2		ug/L		102	60 - 122	18	20
Chrysene	50.0	50.2		ug/L		100	59 - 123	10	20
Dibenz(a,h)anthracene	50.0	52.5		ug/L		105	51 - 134	12	20
Dibenzofuran	50.0	48.7		ug/L		97	53 - 118	19	20
Diethyl phthalate	50.0	49.3	*1	ug/L		99	56 - 125	22	20
Dimethyl phthalate	50.0	42.4		ug/L		85	45 - 127	19	20
Di-n-butyl phthalate	50.0	55.1	*1	ug/L		110	59 - 127	22	20
Di-n-octyl phthalate	50.0	44.8		ug/L		90	51 - 140	10	20
Fluoranthene	50.0	52.5		ug/L		105	57 - 128	16	20
Fluorene	50.0	45.8		ug/L		92	52 - 124	13	20
Hexachlorobenzene	50.0	54.3	*1	ug/L		109	53 - 125	27	20
Hexachlorobutadiene	50.0	37.5	*1	ug/L		75	22 - 124	25	20
Hexachlorocyclopentadiene	50.0	21.0		ug/L		42	10 - 82	28	30
Hexachloroethane	50.0	29.0	*1	ug/L		58	21 - 115	23	20
Indeno[1,2,3-cd]pyrene	50.0	49.9		ug/L		100	52 - 134	10	20
Isophorone	50.0	41.6		ug/L		83	42 - 124	17	20
Naphthalene	50.0	38.2		ug/L		76	40 - 121	16	20
Nitrobenzene	50.0	34.7		ug/L		69	45 - 121	12	20
N-Nitrosodi-n-propylamine	50.0	33.1		ug/L		66	49 - 119	16	20
N-Nitrosodiphenylamine	42.5	47.9		ug/L		113	51 - 123	19	20
Pentachlorophenol	100	108	*1	ug/L		108	35 - 138	30	20
Phenanthrene	50.0	52.3	*1	ug/L		105	59 - 120	21	20
Phenol	50.0	21.0		ug/L		42	22 - 69	5	30
Pyrene	50.0	51.7		ug/L		103	57 - 126	13	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*91*		*43 - 140*
2-Fluorobiphenyl (Surr)	*86*		*44 - 119*

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 410-384020/3-A
Matrix: Water
Analysis Batch: 384135

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 384020

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorophenol (Surr)	50		19 - 119
Nitrobenzene-d5 (Surr)	61		44 - 120
Phenol-d5 (Surr)	36		10 - 120
p-Terphenyl-d14 (Surr)	92		50 - 134

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Lab Sample ID: MB 410-383228/1-A
Matrix: Water
Analysis Batch: 383431

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 383228

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide (1C)	0.020	U	0.030	0.020	0.010	ug/L		06/06/23 10:45	1
Ethylene Dibromide (1C)	0.020	U	0.030	0.020	0.010	ug/L		06/06/23 10:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane (1C)	73		46 - 136	06/06/23 02:19	06/06/23 10:45	1
1,1,2,2-Tetrachloroethane (1C)	73		46 - 136	06/06/23 02:19	06/06/23 10:45	1
1,1,2,2-Tetrachloroethane (2C)	77		46 - 136	06/06/23 02:19	06/06/23 10:45	1
1,1,2,2-Tetrachloroethane (2C)	77		46 - 136	06/06/23 02:19	06/06/23 10:45	1

Lab Sample ID: LCS 410-383228/2-A
Matrix: Water
Analysis Batch: 383431

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 383228

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Ethylene Dibromide (1C)			0.128	0.0946		ug/L		74	60 - 140		
Ethylene Dibromide (1C)			0.128	0.0946		ug/L		74	60 - 140		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,1,2,2-Tetrachloroethane (1C)	79		46 - 136
1,1,2,2-Tetrachloroethane (1C)	79		46 - 136
1,1,2,2-Tetrachloroethane (2C)	80		46 - 136
1,1,2,2-Tetrachloroethane (2C)	80		46 - 136

Lab Sample ID: LCSD 410-383228/3-A
Matrix: Water
Analysis Batch: 383431

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 383228

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ethylene Dibromide (1C)			0.128	0.0934		ug/L		73	60 - 140	1	20
Ethylene Dibromide (1C)			0.128	0.0934		ug/L		73	60 - 140	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,1,2,2-Tetrachloroethane (1C)	78		46 - 136
1,1,2,2-Tetrachloroethane (1C)	78		46 - 136
1,1,2,2-Tetrachloroethane (2C)	80		46 - 136
1,1,2,2-Tetrachloroethane (2C)	80		46 - 136

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 410-389429/5
Matrix: Water
Analysis Batch: 389429

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bromide	0.50	U	0.75	0.50	0.25	mg/L		06/22/23 22:13	1
Chloride	1.2	U M	1.5	1.2	0.60	mg/L		06/22/23 22:13	1
Sulfate	1.0	U M	1.5	1.0	0.50	mg/L		06/22/23 22:13	1

Lab Sample ID: LCS 410-389429/3
Matrix: Water
Analysis Batch: 389429

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	7.50	7.57	M	mg/L		101	91 - 110
Chloride	3.00	2.98		mg/L		99	87 - 111
Sulfate	7.50	6.91		mg/L		92	87 - 112

Lab Sample ID: LCSD 410-389429/4
Matrix: Water
Analysis Batch: 389429

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Bromide	7.50	7.60	M	mg/L		101	91 - 110	0	15
Chloride	3.00	2.96		mg/L		99	87 - 111	1	15
Sulfate	7.50	6.88		mg/L		92	87 - 112	0	15

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 410-383707/1-A
Matrix: Water
Analysis Batch: 384404

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 383707

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron, Dissolved	160	U	210	160	82	ug/L		06/08/23 07:34	1
Manganese, Dissolved	6.2	U	10	6.2	3.1	ug/L		06/08/23 07:34	1

Lab Sample ID: LCS 410-383707/2-A
Matrix: Water
Analysis Batch: 384404

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 383707

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron, Dissolved	5000	5060		ug/L		101	87 - 115
Manganese, Dissolved	500	519		ug/L		104	90 - 114

Lab Sample ID: LCSD 410-383707/3-A
Matrix: Water
Analysis Batch: 384404

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 383707

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron, Dissolved	5000	5080		ug/L		102	87 - 115	1	20
Manganese, Dissolved	500	519		ug/L		104	90 - 114	0	20

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 410-383711/1-A
Matrix: Water
Analysis Batch: 383968

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 383711

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron, Dissolved	160	U	210	160	82	ug/L		06/07/23 10:51	1
Manganese, Dissolved	6.2	U	10	6.2	3.1	ug/L		06/07/23 10:51	1

Lab Sample ID: LCS 410-383711/2-A
Matrix: Water
Analysis Batch: 383968

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 383711

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron, Dissolved	5000	5070		ug/L		101	87 - 115
Manganese, Dissolved	500	513		ug/L		103	90 - 114

Lab Sample ID: LCSD 410-383711/3-A
Matrix: Water
Analysis Batch: 383968

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 383711

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron, Dissolved	5000	5020		ug/L		100	87 - 115	1	20
Manganese, Dissolved	500	515		ug/L		103	90 - 114	0	20

Lab Sample ID: MB 410-383734/1-A
Matrix: Water
Analysis Batch: 384223

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 383734

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Calcium	190	U	200	190	96	ug/L		06/07/23 23:22	1
Magnesium	80	U	100	80	40	ug/L		06/07/23 23:22	1
Potassium	410	U	500	410	200	ug/L		06/07/23 23:22	1
Sodium	480	U	1000	480	240	ug/L		06/07/23 23:22	1

Lab Sample ID: LCS 410-383734/2-A
Matrix: Water
Analysis Batch: 384223

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 383734

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	5000	5060		ug/L		101	87 - 113
Magnesium	5000	5120		ug/L		102	85 - 113
Potassium	5000	5110		ug/L		102	86 - 114
Sodium	5000	5180		ug/L		104	87 - 115

Lab Sample ID: 410-128748-1 MS
Matrix: Water
Analysis Batch: 383968

Client Sample ID: WUAMW01_05312023_PDB
Prep Type: Dissolved
Prep Batch: 383707

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Iron, Dissolved	130	J	5000	5120		ug/L		100	87 - 115
Manganese, Dissolved	74		500	575		ug/L		100	90 - 114

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 410-128748-1 MSD
Client Sample ID: WUAMW01_05312023_PDB
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 383968
Prep Batch: 383707

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron, Dissolved	130	J	5000	5020		ug/L		98	87 - 115	2	20
Manganese, Dissolved	74		500	570		ug/L		99	90 - 114	1	20

Lab Sample ID: 410-128748-1 DU
Client Sample ID: WUAMW01_05312023_PDB
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 383968
Prep Batch: 383707

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Iron, Dissolved	130	J	138	J	ug/L		9	20
Manganese, Dissolved	74		73.9		ug/L		0.2	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 410-383734/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total Recoverable
Analysis Batch: 386210
Prep Batch: 383734

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	1.7	U	2.0	1.7	0.68	ug/L		06/13/23 15:06	1
Lead	0.20	U	0.50	0.20	0.071	ug/L		06/13/23 15:06	1

Lab Sample ID: LCS 410-383734/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total Recoverable
Analysis Batch: 386210
Prep Batch: 383734

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	500	493		ug/L		99	84 - 116
Lead	50.0	50.6		ug/L		101	88 - 115

Method: 2320B-2011 - Alkalinity, Total

Lab Sample ID: MB 410-383949/11
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 383949

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Total Alkalinity as CaCO3 to pH 4.5	6.0	U	8.0	6.0	2.6	mg/L		06/06/23 18:42	1

Lab Sample ID: LCS 410-383949/12
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 383949

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Alkalinity as CaCO3 to pH 4.5	189	181		mg/L		96	66 - 110

Method: 353.2 - Nitrogen, Nitrite

Lab Sample ID: MB 410-382343/13
Matrix: Water
Analysis Batch: 382343

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrite as N	0.040	U	0.050	0.040	0.015	mg/L		06/02/23 08:26	1

Lab Sample ID: LCS 410-382343/14
Matrix: Water
Analysis Batch: 382343

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrite as N	0.700	0.661		mg/L		94	90 - 110

Lab Sample ID: LCSD 410-382343/15
Matrix: Water
Analysis Batch: 382343

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrite as N	0.700	0.661		mg/L		94	90 - 110	0	20

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 410-384422/21
Matrix: Water
Analysis Batch: 384422

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N	0.090	U	0.10	0.090	0.040	mg/L		06/08/23 07:16	1

Lab Sample ID: MB 410-384422/54
Matrix: Water
Analysis Batch: 384422

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Nitrate Nitrite as N	0.090	U	0.10	0.090	0.040	mg/L		06/08/23 08:22	1

Lab Sample ID: LCS 410-384422/52
Matrix: Water
Analysis Batch: 384422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	2.50	2.38		mg/L		95	90 - 110

Lab Sample ID: LCSD 410-384422/53
Matrix: Water
Analysis Batch: 384422

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	2.50	2.37		mg/L		95	90 - 110	0	20

GC/MS VOA

Analysis Batch: 385798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128748-1	WUAMW01_05312023_PDB	Total/NA	Water	8260D	
410-128748-2	EQPT_BLANK_05312023	Total/NA	Water	8260D	
410-128748-3	WUAMW01_05312023_LF	Total/NA	Water	8260D	
410-128748-4	FIELD_BLANK_05312023	Total/NA	Water	8260D	
410-128748-5	Trip Blank	Total/NA	Water	8260D	
MB 410-385798/12	Method Blank	Total/NA	Water	8260D	
LCS 410-385798/6	Lab Control Sample	Total/NA	Water	8260D	
LCS 410-385798/8	Lab Control Sample	Total/NA	Water	8260D	
LCSD 410-385798/7	Lab Control Sample Dup	Total/NA	Water	8260D	
LCSD 410-385798/9	Lab Control Sample Dup	Total/NA	Water	8260D	

GC/MS Semi VOA

Prep Batch: 384020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128748-1	WUAMW01_05312023_PDB	Total/NA	Water	3510C	
410-128748-3	WUAMW01_05312023_LF	Total/NA	Water	3510C	
MB 410-384020/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-384020/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-384020/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 384135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128748-1	WUAMW01_05312023_PDB	Total/NA	Water	8270E	384020
410-128748-3	WUAMW01_05312023_LF	Total/NA	Water	8270E	384020
MB 410-384020/1-A	Method Blank	Total/NA	Water	8270E	384020
LCS 410-384020/2-A	Lab Control Sample	Total/NA	Water	8270E	384020
LCSD 410-384020/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	384020

GC Semi VOA

Prep Batch: 383228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128748-1	WUAMW01_05312023_PDB	Total/NA	Water	8011	
410-128748-3	WUAMW01_05312023_LF	Total/NA	Water	8011	
MB 410-383228/1-A	Method Blank	Total/NA	Water	8011	
LCS 410-383228/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 410-383228/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

Analysis Batch: 383431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128748-1	WUAMW01_05312023_PDB	Total/NA	Water	8011	383228
410-128748-3	WUAMW01_05312023_LF	Total/NA	Water	8011	383228
MB 410-383228/1-A	Method Blank	Total/NA	Water	8011	383228
LCS 410-383228/2-A	Lab Control Sample	Total/NA	Water	8011	383228
LCSD 410-383228/3-A	Lab Control Sample Dup	Total/NA	Water	8011	383228

Analysis Batch: 383432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-383228/1-A	Method Blank	Total/NA	Water	8011	383228
LCS 410-383228/2-A	Lab Control Sample	Total/NA	Water	8011	383228
LCSD 410-383228/3-A	Lab Control Sample Dup	Total/NA	Water	8011	383228

HPLC/IC

Analysis Batch: 389429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128748-1	WUAMW01_05312023_PDB	Total/NA	Water	300.0	
410-128748-3	WUAMW01_05312023_LF	Total/NA	Water	300.0	
MB 410-389429/5	Method Blank	Total/NA	Water	300.0	
LCS 410-389429/3	Lab Control Sample	Total/NA	Water	300.0	
LCSD 410-389429/4	Lab Control Sample Dup	Total/NA	Water	300.0	

Metals

Prep Batch: 383707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128748-1	WUAMW01_05312023_PDB	Dissolved	Water	Non-Digest Prep	
MB 410-383707/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-383707/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	
LCSD 410-383707/3-A	Lab Control Sample Dup	Total/NA	Water	Non-Digest Prep	
410-128748-1 MS	WUAMW01_05312023_PDB	Dissolved	Water	Non-Digest Prep	
410-128748-1 MSD	WUAMW01_05312023_PDB	Dissolved	Water	Non-Digest Prep	
410-128748-1 DU	WUAMW01_05312023_PDB	Dissolved	Water	Non-Digest Prep	

Prep Batch: 383711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128748-3	WUAMW01_05312023_LF	Dissolved	Water	Non-Digest Prep	
MB 410-383711/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-383711/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	
LCSD 410-383711/3-A	Lab Control Sample Dup	Total/NA	Water	Non-Digest Prep	

Prep Batch: 383734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128748-1	WUAMW01_05312023_PDB	Total Recoverable	Water	3005A	
410-128748-3	WUAMW01_05312023_LF	Total Recoverable	Water	3005A	
MB 410-383734/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 410-383734/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 383968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128748-1	WUAMW01_05312023_PDB	Dissolved	Water	6010C	383707
410-128748-3	WUAMW01_05312023_LF	Dissolved	Water	6010C	383711
MB 410-383711/1-A	Method Blank	Total/NA	Water	6010C	383711
LCS 410-383711/2-A	Lab Control Sample	Total/NA	Water	6010C	383711
LCSD 410-383711/3-A	Lab Control Sample Dup	Total/NA	Water	6010C	383711
410-128748-1 MS	WUAMW01_05312023_PDB	Dissolved	Water	6010C	383707
410-128748-1 MSD	WUAMW01_05312023_PDB	Dissolved	Water	6010C	383707
410-128748-1 DU	WUAMW01_05312023_PDB	Dissolved	Water	6010C	383707

Analysis Batch: 384223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128748-1	WUAMW01_05312023_PDB	Total Recoverable	Water	6010C	383734
410-128748-3	WUAMW01_05312023_LF	Total Recoverable	Water	6010C	383734
MB 410-383734/1-A	Method Blank	Total Recoverable	Water	6010C	383734
LCS 410-383734/2-A	Lab Control Sample	Total Recoverable	Water	6010C	383734

QC Association Summary

Client: INTERA Inc
Job ID: 410-128748-1
Project/Site: WUA Data Gap Well for KAFB BFF

Metals

Analysis Batch: 384404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128748-1	WUAMW01_05312023_PDB	Total Recoverable	Water	6010C	383734
410-128748-3	WUAMW01_05312023_LF	Total Recoverable	Water	6010C	383734
MB 410-383707/1-A	Method Blank	Total/NA	Water	6010C	383707
LCS 410-383707/2-A	Lab Control Sample	Total/NA	Water	6010C	383707
LCSD 410-383707/3-A	Lab Control Sample Dup	Total/NA	Water	6010C	383707

Analysis Batch: 386210

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128748-1	WUAMW01_05312023_PDB	Total Recoverable	Water	6020A	383734
410-128748-3	WUAMW01_05312023_LF	Total Recoverable	Water	6020A	383734
MB 410-383734/1-A	Method Blank	Total Recoverable	Water	6020A	383734
LCS 410-383734/2-A	Lab Control Sample	Total Recoverable	Water	6020A	383734

General Chemistry

Analysis Batch: 382343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128748-1	WUAMW01_05312023_PDB	Total/NA	Water	353.2	
410-128748-3	WUAMW01_05312023_LF	Total/NA	Water	353.2	
MB 410-382343/13	Method Blank	Total/NA	Water	353.2	
LCS 410-382343/14	Lab Control Sample	Total/NA	Water	353.2	
LCSD 410-382343/15	Lab Control Sample Dup	Total/NA	Water	353.2	

Analysis Batch: 382389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128748-1	WUAMW01_05312023_PDB	Total/NA	Water	353.2	
410-128748-3	WUAMW01_05312023_LF	Total/NA	Water	353.2	

Analysis Batch: 383949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128748-1	WUAMW01_05312023_PDB	Total/NA	Water	2320B-2011	
410-128748-3	WUAMW01_05312023_LF	Total/NA	Water	2320B-2011	
MB 410-383949/11	Method Blank	Total/NA	Water	2320B-2011	
LCS 410-383949/12	Lab Control Sample	Total/NA	Water	2320B-2011	

Analysis Batch: 384422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-128748-1	WUAMW01_05312023_PDB	Total/NA	Water	353.2	
410-128748-3	WUAMW01_05312023_LF	Total/NA	Water	353.2	
MB 410-384422/21	Method Blank	Total/NA	Water	353.2	
MB 410-384422/54	Method Blank	Total/NA	Water	353.2	
LCS 410-384422/52	Lab Control Sample	Total/NA	Water	353.2	
LCSD 410-384422/53	Lab Control Sample Dup	Total/NA	Water	353.2	

Client Sample ID: WUAMW01_05312023_PDB
Lab Sample ID: 410-128748-1

Date Collected: 05/31/23 09:00
Matrix: Water
Date Received: 06/01/23 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	385798	TQ4J	ELLE	06/13/23 14:48
Total/NA	Prep	3510C			384020	T9CY	ELLE	06/07/23 15:42
Total/NA	Analysis	8270E		1	384135	AH7C	ELLE	06/07/23 23:41
Total/NA	Prep	8011			383228	USL7	ELLE	06/06/23 02:19
Total/NA	Analysis	8011		1	383431	UAMZ	ELLE	06/06/23 16:21
Total/NA	Analysis	300.0		5	389429	W7FX	ELLE	06/22/23 22:59
Dissolved	Prep	Non-Digest Prep			383707	UAMX	ELLE	06/07/23 03:43
Dissolved	Analysis	6010C		1	383968	MT26	ELLE	06/07/23 08:20
Total Recoverable	Prep	3005A			383734	HUH3	ELLE	06/07/23 07:20
Total Recoverable	Analysis	6010C		1	384223	MT26	ELLE	06/08/23 00:22
Total Recoverable	Prep	3005A			383734	HUH3	ELLE	06/07/23 07:20
Total Recoverable	Analysis	6010C		1	384404	MT26	ELLE	06/08/23 08:21
Total Recoverable	Prep	3005A			383734	HUH3	ELLE	06/07/23 07:20
Total Recoverable	Analysis	6020A		1	386210	LC3M	ELLE	06/13/23 15:55
Total/NA	Analysis	2320B-2011		1	383949	DI9Q	ELLE	06/06/23 20:34
Total/NA	Analysis	353.2		1	384422	Q3HN	ELLE	06/08/23 09:10
Total/NA	Analysis	353.2		1	382343	Q3HN	ELLE	06/02/23 08:27
Total/NA	Analysis	353.2		1	382389	UKJF	ELLE	06/02/23 11:34

Client Sample ID: EQPT_BLANK_05312023
Lab Sample ID: 410-128748-2

Date Collected: 05/31/23 10:35
Matrix: Water
Date Received: 06/01/23 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	385798	TQ4J	ELLE	06/13/23 15:10

Client Sample ID: WUAMW01_05312023_LF
Lab Sample ID: 410-128748-3

Date Collected: 05/31/23 14:45
Matrix: Water
Date Received: 06/01/23 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	385798	TQ4J	ELLE	06/13/23 15:32
Total/NA	Prep	3510C			384020	T9CY	ELLE	06/07/23 15:42
Total/NA	Analysis	8270E		1	384135	AH7C	ELLE	06/08/23 00:03
Total/NA	Prep	8011			383228	USL7	ELLE	06/06/23 02:19
Total/NA	Analysis	8011		1	383431	UAMZ	ELLE	06/06/23 16:37
Total/NA	Analysis	300.0		5	389429	W7FX	ELLE	06/22/23 23:11
Dissolved	Prep	Non-Digest Prep			383711	UAMX	ELLE	06/07/23 04:00
Dissolved	Analysis	6010C		1	383968	MT26	ELLE	06/07/23 11:47
Total Recoverable	Prep	3005A			383734	HUH3	ELLE	06/07/23 07:20
Total Recoverable	Analysis	6010C		1	384223	MT26	ELLE	06/08/23 00:34
Total Recoverable	Prep	3005A			383734	HUH3	ELLE	06/07/23 07:20
Total Recoverable	Analysis	6010C		1	384404	MT26	ELLE	06/08/23 08:24

Lab Chronicle

Client: INTERA Inc
Job ID: 410-128748-1
Project/Site: WUA Data Gap Well for KAFB BFF

Client Sample ID: WUAMW01_05312023_LF
Lab Sample ID: 410-128748-3
Date Collected: 05/31/23 14:45
Matrix: Water
Date Received: 06/01/23 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			383734	HUH3	ELLE	06/07/23 07:20
Total Recoverable	Analysis	6020A		1	386210	LC3M	ELLE	06/13/23 15:57
Total/NA	Analysis	2320B-2011		1	383949	DI9Q	ELLE	06/06/23 20:40
Total/NA	Analysis	353.2		1	384422	Q3HN	ELLE	06/08/23 09:12
Total/NA	Analysis	353.2		1	382343	Q3HN	ELLE	06/02/23 08:27
Total/NA	Analysis	353.2		1	382389	UKJF	ELLE	06/02/23 11:34

Client Sample ID: FIELD_BLANK_05312023
Lab Sample ID: 410-128748-4
Date Collected: 05/31/23 14:50
Matrix: Water
Date Received: 06/01/23 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	385798	TQ4J	ELLE	06/13/23 15:54

Client Sample ID: Trip Blank
Lab Sample ID: 410-128748-5
Date Collected: 05/31/23 00:00
Matrix: Water
Date Received: 06/01/23 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	385798	TQ4J	ELLE	06/13/23 16:17

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: INTERA Inc
Job ID: 410-128748-1
Project/Site: WUA Data Gap Well for KAFB BFF

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-30-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
353.2		Water	Nitrate Nitrite as N
6010C	3005A	Water	Calcium
6010C	3005A	Water	Magnesium
6010C	3005A	Water	Potassium
6010C	3005A	Water	Sodium
6010C	Non-Digest Prep	Water	Iron, Dissolved
6010C	Non-Digest Prep	Water	Manganese, Dissolved
6020A	3005A	Water	Arsenic
6020A	3005A	Water	Lead

Method Summary

Client: INTERA Inc
Job ID: 410-128748-1
Project/Site: WUA Data Gap Well for KAFB BFF

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds (GC/MS)	SW846	ELLE
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	ELLE
8011	EDB, DBCP, and 1,2,3-TCP (GC)	SW846	ELLE
300.0	Anions, Ion Chromatography	EPA	ELLE
6010C	Metals (ICP)	SW846	ELLE
6020A	Metals (ICP/MS)	SW846	ELLE
2320B-2011	Alkalinity, Total	SM	ELLE
353.2	Nitrate by Calculation	EPA	ELLE
353.2	Nitrogen, Nitrate-Nitrite	EPA	ELLE
353.2	Nitrogen, Nitrite	EPA	ELLE
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE
8011	Microextraction	SW846	ELLE
Non-Digest Prep	Preparation, Non-Digested Aqueous Metals	EPA	ELLE

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: INTERA Inc
Job ID: 410-128748-1
Project/Site: WUA Data Gap Well for KAFB BFF

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-128748-1	WUAMW01_05312023_PDB	Water	05/31/23 09:00	06/01/23 10:08
410-128748-2	EQPT_BLANK_05312023	Water	05/31/23 10:35	06/01/23 10:08
410-128748-3	WUAMW01_05312023_LF	Water	05/31/23 14:45	06/01/23 10:08
410-128748-4	FIELD_BLANK_05312023	Water	05/31/23 14:50	06/01/23 10:08
410-128748-5	Trip Blank	Water	05/31/23 00:00	06/01/23 10:08

Eurofins Lancaster Laboratories Environme
2425 New Holland Pike
Lancaster, PA 17601
Phone: 717-656-2300 Fax: 717-656-2681

Chain of Custody Record

410-128748 Chain of Custody

eurofins Environment Testing

Client Information	Sampler: A. Heffner/B. Archuleta	Lab PM: Luciano, Natalie R	COC No: 410-89509-23364.1
Client Contact: Lynda Price	Phone:	E-Mail: Natalie.Luciano@et.eurofinsus.com	Page: Page 1 of 2
Company: INTERA Inc	PWSID:		Job #:
Address: 6000 Uptown Blvd NE Ste 220	Due Date Requested:		
City: Albuquerque	TAT Requested (days):		
State, Zip: NM, 87110	Compliance Project: Δ Yes Δ No		
Phone: 505-246-1600(Tel)	PO #: ABWUA.C009.KAFB		
Email: lprice@intera.com	WO #:		
Project Name: WUA Data Gap Well for KAFB BFF	Project #: 41014469		
Site:	SSOW#:		

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D_DOD5-TCL 4.3 VOCs	8270E_DOD5-TCL 4.3 SVOCs	6010C_DOD5_6020A_DOD5	6010C_DOD5-Dissolved Metals Fe, Mn Field Filtered	8011_DOD5 - EDB	2320B-Alkalinity - bicarb., carb., tot	300_ORFM_28D_D5-Anions	353.2_Nitrite-Nitrite	353.2_Pres-N, Total Nitrate Nitrite	Nitrate_Calc-Nitrate				Total Number of containers	Special Instructions/Note:
				Preservation Code:	X	X	A	N	D	D	A	N	N	N	S	N				X	
WUAMW01_05312023_PDB	5/31/23	0900	G	W			X	X	X	X	X	X	X	X	X	X					
EQPT_BLANK_05312023	5/31/23	1035	G	W			X														
WUAMW01_05312023_LF	5/31/23	1445	G	W			X	X	X	X	X	X	X	X	X	X					
FIELD_BLANK_05312023	5/31/23	1450	G	W			X														

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ______ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	5/31/23 1530	INTERA			
			[signature]	8/1/23 10:08	ELLE T

Custody Seals Intact: Δ Yes Δ No (Yes circled) | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: Raw: 3.5 Cor: 3.5 AEH

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: INTERA Inc

Job Number: 410-128748-1

Login Number: 128748
List Number: 1
Creator: McBeth, Jessica

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

Question	Answer	Comment
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	False	Received Trip Blank(s) not listed on COC.
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	True	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	

Appendix C

Waste Manifest

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

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
V S Q G	1	800-861-1700	13788 - 13

GENERATOR

5. Generator's Name and Mailing Address
Albuquerque Bernalillo County Water Utility Authority
Att: Diane Agnew
1 Civic Plaza NW
Albuquerque NM 87103
Generator's Phone: 505 289-3008

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Advanced Environmental Solutions, Inc.
U.S. EPA ID Number: N M R 0 0 0 0 0 6 5 0 2

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Advanced Environmental Solutions, Inc.
2318 Roldan Drive
Belen NM 87002
Facility's Phone: 505 861-1700
U.S. EPA ID Number: N M R 0 0 0 0 0 6 5 0 2

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	Non RCRA Regulated, Non DOT Hazardous Water	0 0 1	TP	220g	G	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information
1)(L) AES Profile # AES1005, 1X275g Poly Tote
NON-HAZ
9.1) A10126
JOB# J13788

14. 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.

Generator's/Offeror's Printed/Typed Name: Brian Archuleta - INTERA On Behalf of ABCWUA
Signature: B C
Month: 6 Day: 1 Year: 23

INT'L

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

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Chris Rael
Signature: C. Rael
Month: 6 Day: 1 Year: 23

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: JOHN J - SANCHEZ
Signature: John J Sanchez
Month: 6 Day: 1 Year: 23

DESIGNATED FACILITY TO GENERATOR