



April 26, 2024

Kelsey Bicknell
Environmental Manager
ABCWUA
Albuquerque, New Mexico

kbicknell@abcwua.org

RE: Results of Fourth Quarter 2023 Water Authority Data Gap Well Monitoring (revised May 1, 2024)

Dear Kelsey:

John Shomaker & Associates, Inc. (JSAI) was contracted by the Albuquerque Bernalillo County Water Utility Authority (Water Authority) to assist with Data Gap Well Monitoring at well WUABFFMW-01 for four quarters beginning with the 3rd Quarter (Q3) 2023 event. The results herein are for the sampling event conducted during the 4th Quarter (Q4) 2023. The sampling event began on November 27, 2023 when the passive sampling devices were deployed. The sampling event concluded on December 18, 2023 when the passive sampling devices were retrieved and the passive samples collected and active sampling took place.

On November 27, 2023, JSAI removed the pressure transducer, measured depth to water, and then deployed 4 dual membrane passive diffusion bags (DMPDB) and one passive diffusion bag (PDB) in WUABFFMW-01. The passive sampling devices were retrieved and samples were collected for laboratory analysis on December 18, 2023, once the passive sampling devices had been deployed in the well for at least three weeks, per manufacturer's recommendations. Following retrieval of the passive sampling devices, the Water Authority owned Bennett sample pump was deployed for active sampling. The well was pumped at a rate of about 0.75 gpm until three well volumes had been purged. Samples were then collected for laboratory analysis for the analytes and methods presented in Table 1. Deployed depths of the passive sampling devices and the setting of the Bennett sample pump are presented in Table 2. Laboratory analytical results, chains-of-custody, and field documents including purge logs are attached.

Samples were delivered to Eurofins Albuquerque (formerly Hall Environmental Analytical Laboratory) and shipped overnight to Eurofins Environment Testing (Eurofins) in Denver, CO for analytical analyses. Table 3 is a summary of analytes that were detected during the 4th quarter 2023 sampling. None of the detected analytes were reported above the New Mexico Environmental Department Drinking Water Bureau (NMED-DWB) standards aside from manganese. Manganese falls under the secondary drinking water standards, which are non-enforceable standards related to aesthetics. There is not a standard for benzaldehyde, which was detected in WUABFFMW-01 BP (Bennett Pump sample).

Bis(2-ethylhexyl) phthalate was detected in and reported as estimates for all of the samples submitted for laboratory analysis. According to Eurofins, the level in the method blank is consistent with common lab contamination and it is implied and likely that the results are lab contamination.

Compared to the sampling event in the 3rd quarter 2023 sampling event, Di-n-butyl-phthalate and Benzaldehyde concentrations in WUABFFMW-01 BP, were below the laboratory detection limits. The other analytes remained under laboratory detection limit, in the 4th quarter 2023 sampling event.

Table 1. Analytes for samples at WUABFFMW-01, deployed November 27, 2023, retrieved December 18, 2023, Albuquerque, Bernalillo County, New Mexico

analyte suite	method of analysis
anions (Cl, Br, SO ₄ , NO ₃ , NO ₂)	EPA E300.0, E353.2
ethylene dibromide (EDB)	EPA 8011
volatile organic compounds (VOCs)	EPA 8260
semi-volatile organic compounds (SVOCs)	EPA 8270
total metals (Ca, Mg, Na, K, As, Pb)	EPA 6010C/6020A
dissolved metals (Fe, Mg)	EPA 6010C/6020A
alkalinity	EPA SM2320B

Table 2. Sample collection depths at WUABFFMW-01, deployed November 27, 2023, retrieved December 18, 2023, Albuquerque, Bernalillo County, New Mexico

sample type	equipment	sample collection depth ft bgl
passive	DMPDB	574*
passive	DMPDB	577*
passive	DMPDB	580*
passive	DMPDB	583*
passive	PDB	586*
active	Bennett pump	580**

*passive samples

**pump intake

Prior to deploying and post-sampling, the Bennett pump was decontaminated by pumping 5 gallons each of a distilled water and Liquinox mix, distilled water, and lab-grade deionized water through the pump and tubing. After final field decontamination, post-purging and sampling of the well, a sample final rinse sample (Equip Rinsate) was collected and submitted for laboratory analysis. All decontamination water and industrial derived waste (IDW) water produced during purging was collected in a container provided by Advanced Environmental Solutions, Inc. (AES) and delivered to their facility for disposal. The disposal manifest is attached.

Table 3. Analytes above the detection limit for samples at WUABFFMW-01, deployed November 27, 2023, retrieved December 18, 2023, Albuquerque, Bernalillo County, New Mexico

sample ID		WUABFFMW-01 PDB	WUABFFMW-01 BP	equip rinsate	method	NMED/DWB standard
Analyte	units					
Bis(2-ethylhexyl) phthalate	µg/L	4.6 ^b	4.8 ^b	20	8270E	6
Benzaldehyde	µg/L	nd	nd	nd	8270E	no standard
Di-n-butyl phthalate	µg/L	nd	nd	nd	8270E	20
Alkalinity	mg/L	120	120	110	SM 2320B	no standard
sulfate	mg/L	26	27 ^b	26	300.0	250 ^a
chloride	mg/L	7.7	7.2	7.0	300.0	250 ^a
nitrate-N	mg/L	0.049 ^b	0.16	0.080	353.2	10
calcium	mg/L	33	33	34	6010D	no standard
magnesium	mg/L	4.5	4.6	4.7	6010D	no standard
manganese	mg/L	0.19	0.21	0.20	6010D	0.05 ^a
potassium	mg/L	3.0	2.8 ^b	2.9 ^b	6010D	no standard
sodium	mg/L	26	24	25	6010D	no standard
total arsenic	µg/L	1.7 ^b	0.92 ^b	1.1 ^b	6010D	10
iron	mg/L	0.03 ^b	0.031 ^b	0.017 ^b	6010D	0.30 ^a

^a secondary drinking water standard (non-enforceable, aesthetic guideline)

nd – not detected

^b estimated: the analyte was positively identified; the quantitation is an estimation

µg/L - micrograms per liter

bold indicates concentration exceeds NMED/DWB standard

mg/L - milligrams per liter

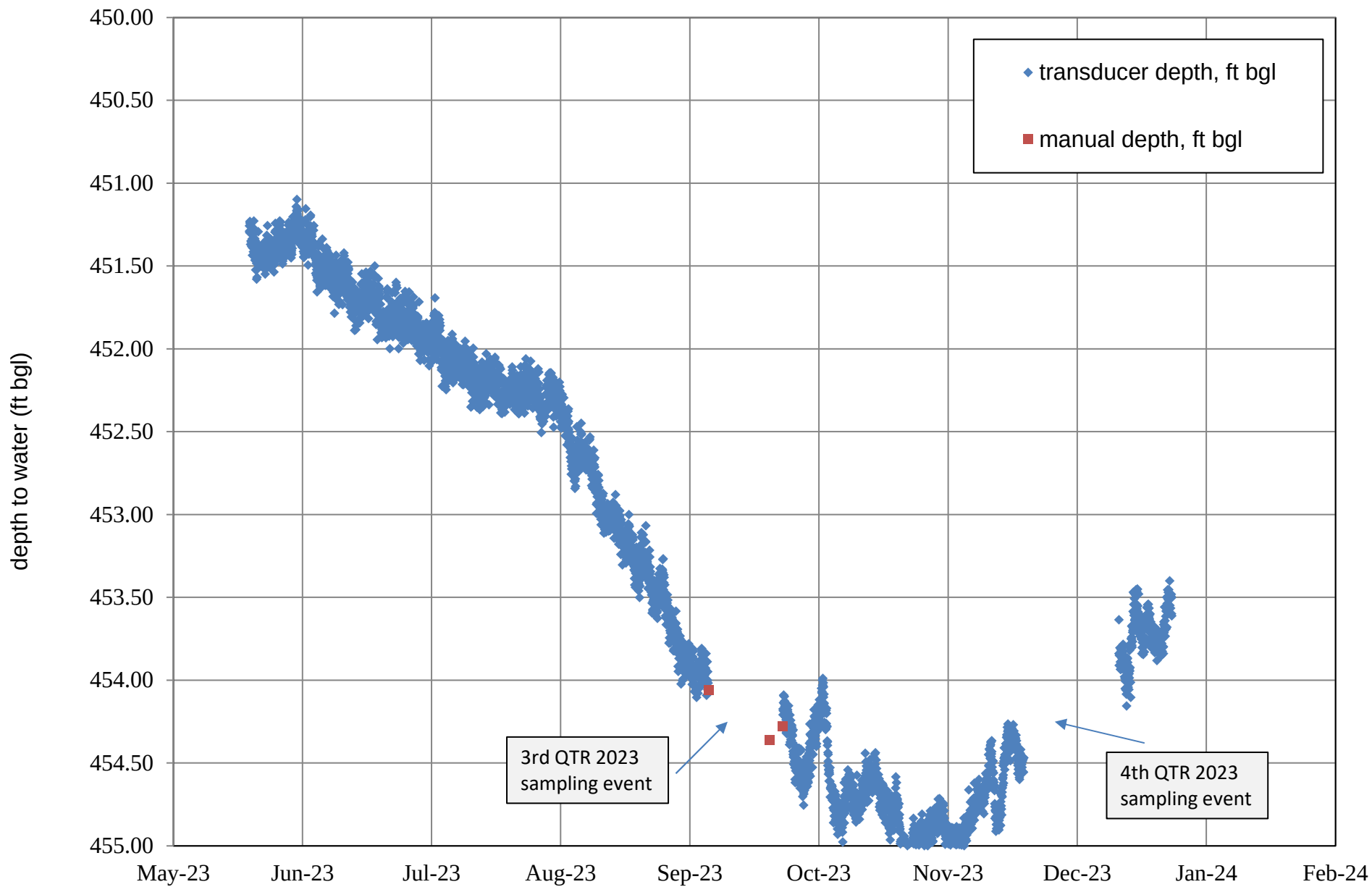
Sincerely,

JOHN SHOMAKER & ASSOCIATES, INC.



Steven T. Finch, Jr., CPG,
Principal Hydrogeologist-Geochemist

Enc: Figure 1. Hydrograph for WUABFFMW-01
Field documents
Disposal manifest
Laboratory analytical results & data, via Dropbox



Hydrograph for WUABFFMW-01

PROJECT NAME: Data Gap Well WELL NO.: WVA BFF MW-01
 PROJECT NO.: _____ DATE: 12/18/23 FIELD CREW: 2W 1CPC

WATER LEVEL, WATER COLUMN HEIGHT, PUMP DETAILS

TIME	DEPTH TO BOTTOM OF WELL (ft btoc)	DEPTH TO WATER (DTW) (ft btoc)	Water Column Height (DTB-DTW) (ft)	PUMP TYPE	PUMP DEPTH (ft btoc)
10:09	597	453.75	143.25	Bennett	590

ft btoc: feet below top of casing from designated measuring point

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	54.44	108.88	163.32

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

METHOD OF PURGING: low flow + 3 well volumes
 METHOD OF SAMPLING: grab

WATER LEVEL/WATER QUALITY INSTRUMENTS USED

INSTRUMENT	SERIAL NO.	TIME CALIBRATION PERFORMED	TECH	COMMENTS
Heron Dipper-T2	1208-T2			
Dalton PC 450, 45T	Pro ODO, Hach 2100 Q	12/18/23; 8:45	LPC	
45T Pro 130D				GeoTech rental

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)
11:00	18.1	7.42	294.3	-44	1.96	454.02	~0.75	0	DD
11:15	18.9	7.70	300.9	-85	1.02	454.00	~0.75	10	2.94; clear; no odor
11:30	19.1	7.66	297.6	-94	0.92	453.97	~0.75	24	2.31; clear; none
11:45	19.1	7.70	296.0	-96	0.83	453.95	~0.75	36	2.40; clear; none
12:00	19.1	7.78	297.4	-106	0.74	453.94	~0.75	47	2.80; clear; none
12:15	19.0	7.82	296.6	-100	0.85	453.93	~0.75	58	2.37; clear; none
12:30	19.2	7.78	294.0	-111	0.48	453.92	~0.75	70	2.88; clear; none
12:45	19.3	7.84	298.1	-95	0.37	453.92	~0.75	81	2.48; clear; none
13:00	18.9	7.85	294.7	-103	0.73	453.91	~0.75	95	2.41; clear; none
13:15	19.2	7.82	297.9	-111	0.69	453.91	~0.75	106	2.26; clear; none
13:30	19.4	7.84	295.5	-111	0.56	453.91	~0.75	119	2.32; clear; slight
13:45	19.5	7.89	296.7	-107	0.32	453.89	~0.75	130	2.38; clear; none
14:00	19.4	7.85	294.4	-103	0.44	453.89	~0.75	142	2.42; clear; none
14:15	19.8	7.91	294.3	-101	0.46	453.86	~0.75	154	2.44; clear; none
								154	2.43; clear; slight

WATER QUALITY READINGS DURING PURGING (continued)

[illegible]

*If measured.

Stabilization = **Temp** $\pm 1^{\circ}\text{C}$; **pH** ± 0.2 units; **Sp. Cond.** $\pm 10\%$; **Turb.** $\pm 10\%$

GROUNDWATER SAMPLING DATA

GROUNDWATER SAMPLE ID: W0ABFFmw-01 (BP) DUPLICATE SAMPLE ID: _____

Time	Bottle Type	Analytical Method	# of Bottles	Volume	Preservative
14:30	Plastic	Dissolved Metals	1	500 mL	none
14:30	Plastic	Total metals	1	500 mL	Nitric acid
14:30	Amber	Nitrate-Nitrite	1	500 mL	Sulfuric acid
14:30	Plastic	Alkalinity + anions	1	250 mL	none
14:30	Amber	SODS	2	125 mL	none
14:30	VOA	VOC's	3	40 mL	HCl
14:30	VOA	EDB	3	40 mL	HCl
TOTAL:					

Sampler:

Zach Weathers
(Printed Name)

(Signature)



DAILY FIELD LOG

DATE: November 27, 2023
ACTIVITY: Deploy Passive Sampling Equip CLIENT: ABEWUA
GEOLOGIST: ZW/ZBL PROJECT: Data Gap Well Monitoring

13:58 ZW, ZBL, Kelsey + Rowan (WUA) on site.
- De-canning the reel + setting up to retrieve the +
deploy PDBs.
14:22 DTW = 454.38 ft bump. Sounder decontaminated as it was deployed
and retrieved.
14:26 Begin deploying passive samplers
15:00 Finish deploying passive sampling equipment.



2611 Broadbent Parkway NE
Albuquerque, New Mexico 87107
505-345-3407 • www.shomaker.com

CLIENT: ABC-WJA

PROJECT: Dala Gang Well

8:01 On site at Drinking Water Plant for Bennett Pump

9:14 Off site to Data Gap well

8.34 JW on site at Dala Gap Well, Kelcey + Rowson on site.

8:40 LPL on site.

- setting up to collect PDBs.

8:58 Scott (EA) on site

9.02 Travis (USAF) on site

4:04 Begin retrieving PDBs

4.18 Collect samples WJABFF MW-01 (PDB)

~ 10:00 All off site except ZW / LRC

10:08 DTW = 453.75 ft long.

10:28 Begin decon Bennett Pump

10:39 Deploying Brewitt Pump

11:00 Pump on. Buckets (5-gal) - ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~

14:19 Trail on site, South on site

14:28 Lower on side

14:30 Collect sample WJABFFmw-01 (BP)

14:55 Scott & Traci off site

- Retrieving pump

15:25 Collect "Equip Rinse" sample after purging line with lab-grade DI water

15:30 Decon pump, load equipment.

16:10 Off site to Drinking Water Plant to drop off Bennett Pump



DAILY FIELD LOG

ACTIVITY: Installing transducer.

DATE: 12-19-2023

GEOLOGIST: CPC

CLIENT: ABC WUA

PROJECT: Data Gap Monitoring

15:00 CPC & FGS onsite. CPC forgot desiccant, FGS offsite to get it.

15:05 WL: 453.45' bmp. MP: West side of pvc well.

• Well name WUA3FFMW-01 19 Dec 2023

15:50 FGS onsite w/ desiccant.

~ 16:15 Transducer installed.

16:25 FGS & CPC offsite.



PASSIVE DIFFUSION WATER SAMPLING DATA SHEET

Well Location ID:

DEPLOYMENT RECORD

Sample ID	WUABFFMW01		
Deployment Team	ZW + ZBL		
Date/Time Deployed	Date: MM/DD/YYYY 11/27/2023	Time:	14:22
Water Level Meter	454.38		

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	454.38
Notes	

Sampler Number	Top of Sampler Depth (ft btoc)
1*	574
2*	577
3*	590
4*	583
5**	584

¹Total Depth is based on construction data, not measured

*Dual Membrane Bag; ** Passive Diffusive Bag

Zach Wraith
Signed

11/27/23
Date

SAMPLING RECORD

Sample ID	WUABFFMW-01 (PDB)		
Sampling Team	ZW + CPL		
Date/Time Sampled	Date: MM/DD/YYYY 12/18/23	Time:	
Water Level Meter	Hanna HI9142-T2		
Water Quality Meter	Oakton PI 450, YSI Pro 600, YSI Pro 1030, Hach 2100b		

Water Quality Readings

Time	Temp (C)	pH	SP. COND. (mS/cm)	ORP (mV)	TURB. (NTU)*	Comments (color/odor)
						not enough water in PDBs for field WQ measurement



PASSIVE DIFFUSION WATER SAMPLING DATA SHEET

Groundwater Analyses

2 AD3AI

Analytes/Method	1	2	3	4	5	Notes
VOCs EPA Method 8260.	☐	☐	☐	☐	☒	
SVOCs via EPA Method 8270.	☐	☐	☒	☒	☐	Had to collect from PDB # 3 + 4 to fill bottles.
Total Metals (As, Pb, Ca, Mg, K, Na) via EPA Method 6010/6020.	☒	☐	☐	☐	☐	
Dissolved Metals (Fe, Mn) via EPA 6010	☒	☐	☐	☐	☐	
Anions (Cl, Br, SO ₄) via EPA Method E300.0.	☐	☒	☐	☐	☐	
Nitrate/Nitrite nitrogen via EPA 353.2	☐	☒	☐	☐	☐	
EDB via EPA Method 8011.	☐	☐	☐	☐	☒	only able to fill 2 bottles
Alkalinity via EPA Method SM2320B.	☐	☒	☐	☐	☐	

Zach Weather
Signed

11/27/23
Date

NON-HAZARDOUS WASTE MANIFEST		1. Generator ID Number V S Q G	2. Page 1 of 1	3. Emergency Response Phone 800-861-1700	4. Waste Tracking Number 1 4 2 9 2 - 2	
5. Generator's Name and Mailing Address Albuquerque Bernalillo County Water Utility Authority 1 Civic Plaza NW Albuquerque NM 87103			Generator's Site Address (if different than mailing address) Albuquerque Bernalillo County Water Utility Authority Kathryn and Indiana SE Albuquerque NM 87103			
Generator's Phone: 505 289-3009						
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			U.S. EPA ID Number N M R 0 0 0 0 0 6 5 0 2			
Facility's Phone: 505 861-1700						
GENERATOR	9. Waste Shipping Name and Description		10. Containers		11. Total Quantity	12. Unit Wt./Vol.
			No.	Type		
	Non RCRA Regulated, Non DOT Hazardous IDW Water		0 0 1	TP	175	G
13. Special Handling Instructions and Additional Information 1)(L) AES Profile # AES1186						
NON-HAZ 9.1) A 10401						
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. JOB# J14292						
Generator's/Offoror's Printed/Typed Name Zach Weathers Signature Zach Weathers Month 12 Day 19 Year 23						
INT'L	15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.:					
	16. Transporter Acknowledgment of Receipt of Materials					
TRANSPORTER	Transporter 1 Printed/Typed Name Frances Grishkina - Santangelo Signature Frances Grishkina Month 12 Day 19 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					
	17b. Alternate Facility (or Generator) Manifest Reference Number: 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 12 Day 19 Year 23						



ANALYTICAL REPORT

PREPARED FOR

Attn: Zach Weathers
John Shomaker and Associates Inc
2611 Broadbent Pkwy Ne
Albuquerque NM 87107

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JOB DESCRIPTION

Water Authority Data Gap Well Monitoring

JOB NUMBER

280-185943-1

Eurofins Denver

Job Notes

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Authorization



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Authorized for release by
Natalie B Stone, Project Manager
Natalie.Stone@et.eurofinsus.com

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Definitions/Glossary

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Estimated: The analyte was positively identified; the quantitation is an estimation
M	Manual integrated compound.
Q	One or more quality control criteria failed.
U	Undetected at the Limit of Detection.

GC Semi VOA

Qualifier	Qualifier Description
Q	One or more quality control criteria failed.
U	Undetected at the Limit of Detection.

Metals

Qualifier	Qualifier Description
D	The reported value is from a dilution.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
U	Undetected at the Limit of Detection.

General Chemistry

Qualifier	Qualifier Description
J	Estimated: The analyte was positively identified; the quantitation is an estimation
J1	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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
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

Definitions/Glossary

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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 Narrative
280-185943-1**

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- 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 may be 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.

Receipt

The samples were received on 12/20/2023 11:35 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 2.5°C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

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

Samples Equip Rinsate (185943-3), WUABAFMW-01(BP) (185943-2) and WUABAFMW-01(PDB) (185943-1) were analyzed for Volatile Organic Compounds (GC/MS). The samples were analyzed on 12/28/2023.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 280-638514 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

Samples Equip Rinsate (185943-3), WUABAFMW-01(BP) (185943-2) and WUABAFMW-01(PDB) (185943-1) were analyzed for Semivolatile Organic Compounds (GC/MS). The samples were prepared on 12/22/2023 and analyzed on 12/28/2023 and 12/29/2023.

The following samples WUABAFMW-01(PDB) (280-185943-1), WUABAFMW-01(BP) (280-185943-2) and Equip Rinsate (280-185943-3) in preparation batch 280-638265 were decanted prior to preparation.

The continuing calibration verification (CCV) associated with batch 280-638558 recovered outside acceptance criteria, low biased, for Di-n-octyl phthalate and 4-Nitrophenol. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples did not contain the affected analyte(s) at a level greater than the RL, the data are reported.

The continuing calibration verification (CCV) associated with batch 280-638558 recovered outside acceptance criteria, low biased, for Bis(2-ethylhexyl) phthalate. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples did not contain the affected analyte(s) at a level greater than the LOD, the data are reported.

The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 280-638265 and analytical batch 280-638558 recovered outside control limits for the following analytes: 2,4-Dinitrophenol, Hexachlorocyclopentadiene, Hexachlorobutadiene and Hexachloroethane.

A refrigerator used for temporary storage of sample extracts for semi-volatile organic compound analysis had temperature excursions above the maximum acceptance level of 6°C. The temperatures recorded ranged from 6° to 10°C for a period of 11 hours between December 22nd to December 23rd 2023. Laboratory control samples recovered within standard control limits and surrogate recovery in samples was within acceptance limits. It is not expected that the temperature excursion impacted data quality. This applies to Method 8270E on the following samples: 280-185943-1, 280-185943-2, and 280-185943-3.

The laboratory control sample (LCS) associated with preparation batch 280-638265 and analytical batch 280-638621 recovered outside control limits for Hexachlorobutadiene. Samples are outside 2x holding time; data have been qualified and reported.

WUABAFMW-01(BP) (280-185943-2), Equip Rinsate (280-185943-3) and (LCS 280-638265/2-A)

The surrogate recovery 2-Fluorobiphenyl for the method blank associated with preparation batch 280-638265 and analytical batch 280-638621 was outside control limits. Surrogate recovery in laboratory control sample and associated samples are within control limits. Samples are outside 2x holding time; data has been qualified and reported.

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

Samples Equip Rinsate (185943-3), WUABAFMW-01(BP) (185943-2) and WUABAFMW-01(PDB) (185943-1) were analyzed for EDB, DBCP, and 1,2,3-TCP (GC). The samples were prepared and analyzed on 12/22/2023.

Surrogate 1,2-Dibromopropane in preparation batch 280-638238 and analytical batch 280-638307 was out of control high bias on the primary column. The conformation column was in control. Data has been reported from the in control column. WUABAFMW-01(PDB) (280-185943-1), WUABAFMW-01(BP) (280-185943-2), Equip Rinsate (280-185943-3), (CCV 280-638307/17), (CCV 280-638307/27), (CCV 280-638307/3), (LCS 280-638238/2-A), (LCSD 280-638238/3-A) and (MB 280-638238/1-A)

The continuing calibration verification (CCV) associated with batch 280-638307 recovered above the upper control limit for Ethylene Dibromide. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: WUABAFMW-01(PDB) (280-185943-1), WUABAFMW-01(BP) (280-185943-2) and Equip Rinsate (280-185943-3).

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 280-638238.

Method 6010D - Metals (ICP)

Samples Equip Rinsate (185943-3), WUABAFMW-01(BP) (185943-2) and WUABAFMW-01(PDB) (185943-1) were analyzed for Metals (ICP). The samples were prepared on 12/28/2023 and 1/4/2024 and analyzed on 12/31/2023 and 1/4/2024.

Method 6020B - Metals (ICP/MS)

Samples Equip Rinsate (185943-3), WUABAFMW-01(BP) (185943-2) and WUABAFMW-01(PDB) (185943-1) were analyzed for Metals (ICP/MS). The samples were prepared and analyzed on 12/27/2023.

Method SM 2320B - Alkalinity

Samples Equip Rinsate (185943-3), WUABAFMW-01(BP) (185943-2) and WUABAFMW-01(PDB) (185943-1) were analyzed for Alkalinity. The samples were analyzed on 12/22/2023.

Method 300.0 - Anions, Ion Chromatography

Samples Equip Rinsate (185943-3), WUABAFMW-01(BP) (185943-2) and WUABAFMW-01(PDB) (185943-1) were analyzed for Anions, Ion Chromatography. The samples were analyzed on 12/29/2023.

The matrix spike (MS) recoveries for analytical batch 280-638577 were outside control limits for sulfate. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits as well as the associated matrix spike duplicate (MSD).

Method 353.2 - Nitrogen, Nitrate-Nitrite

Samples Equip Rinsate (185943-3), WUABAFMW-01(BP) (185943-2) and WUABAFMW-01(PDB) (185943-1) were analyzed for Nitrogen, Nitrate-Nitrite. The samples were analyzed on 1/2/2024.

Detection Summary

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Client Sample ID: WUABAFMW-01(PDB)

Lab Sample ID: 280-185943-1

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	4.6	J Q	10	8.0	3.3	ug/L	1		8270E	Total/NA
Calcium	33000		200	64	24	ug/L	1		6010D	Total/NA
Magnesium	4500		200	15	4.2	ug/L	1		6010D	Total/NA
Potassium	3000		3000	940	240	ug/L	1		6010D	Total/NA
Sodium	26000		1000	320	97	ug/L	1		6010D	Total/NA
Iron	30	J	100	34	9.1	ug/L	1		6010D	Dissolved
Manganese	190		10	1.8	0.45	ug/L	1		6010D	Dissolved
Arsenic	1.7	J	5.0	2.0	0.50	ug/L	1		6020B	Total/NA
Chloride	7.7		3.0	2.5	1.0	mg/L	1		300.0	Total/NA
Sulfate	26		5.0	2.5	1.0	mg/L	1		300.0	Total/NA
Nitrate Nitrite as N	0.049	J	0.10	0.080	0.044	mg/L	1		353.2	Total/NA
Alkalinity	120		10	6.4	3.1	mg/L	1		SM 2320B	Total/NA

Client Sample ID: WUABAFMW-01(BP)

Lab Sample ID: 280-185943-2

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	4.8	J	10	8.0	3.3	ug/L	1		8270E	Total/NA
Calcium	33000		200	64	24	ug/L	1		6010D	Total/NA
Magnesium	4600		200	15	4.2	ug/L	1		6010D	Total/NA
Potassium	2800	J	3000	940	240	ug/L	1		6010D	Total/NA
Sodium	24000		1000	320	97	ug/L	1		6010D	Total/NA
Iron	31	J	100	34	9.1	ug/L	1		6010D	Dissolved
Manganese	210		10	1.8	0.45	ug/L	1		6010D	Dissolved
Arsenic	0.92	J	5.0	2.0	0.50	ug/L	1		6020B	Total/NA
Chloride	7.2		3.0	2.5	1.0	mg/L	1		300.0	Total/NA
Sulfate	27	J1	5.0	2.5	1.0	mg/L	1		300.0	Total/NA
Nitrate Nitrite as N	0.16		0.10	0.080	0.044	mg/L	1		353.2	Total/NA
Alkalinity	120		10	6.4	3.1	mg/L	1		SM 2320B	Total/NA

Client Sample ID: Equip Rinsate

Lab Sample ID: 280-185943-3

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	20		10	8.0	3.3	ug/L	1		8270E	Total/NA
Calcium	34000		200	64	24	ug/L	1		6010D	Total/NA
Magnesium	4700		200	15	4.2	ug/L	1		6010D	Total/NA
Potassium	2900	J	3000	940	240	ug/L	1		6010D	Total/NA
Sodium	25000		1000	320	97	ug/L	1		6010D	Total/NA
Iron	17	J	100	34	9.1	ug/L	1		6010D	Dissolved
Manganese	200		10	1.8	0.45	ug/L	1		6010D	Dissolved
Arsenic	1.1	J	5.0	2.0	0.50	ug/L	1		6020B	Total/NA
Chloride	7.0		3.0	2.5	1.0	mg/L	1		300.0	Total/NA
Sulfate	26		5.0	2.5	1.0	mg/L	1		300.0	Total/NA
Alkalinity	110		10	6.4	3.1	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Client Sample ID: WUABAFMW-01(PDB)

Lab Sample ID: 280-185943-1

Date Collected: 12/18/23 09:18

Matrix: Water

Date Received: 12/20/23 11:35

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylbenzene	0.40	U	1.0	0.40	0.30	ug/L		12/28/23 03:22	1
Styrene	0.80	U	1.0	0.80	0.36	ug/L		12/28/23 03:22	1
cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63	ug/L		12/28/23 03:22	1
trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65	ug/L		12/28/23 03:22	1
N-Propylbenzene	0.80	U	1.0	0.80	0.53	ug/L		12/28/23 03:22	1
n-Butylbenzene	0.80	U	1.0	0.80	0.48	ug/L		12/28/23 03:22	1
4-Chlorotoluene	0.80	U	1.0	0.80	0.21	ug/L		12/28/23 03:22	1
1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39	ug/L		12/28/23 03:22	1
Ethylene Dibromide	0.80	U	1.0	0.80	0.40	ug/L		12/28/23 03:22	1
3-Chloro-1-propene	0.40	U	2.0	0.40	0.17	ug/L		12/28/23 03:22	1
1,2-Dichloroethane	0.80	U	1.0	0.80	0.54	ug/L		12/28/23 03:22	1
Acrylonitrile	8.0	U	20	8.0	4.5	ug/L		12/28/23 03:22	1
Vinyl acetate	2.0	U	3.0	2.0	0.94	ug/L		12/28/23 03:22	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		12/28/23 03:22	1
1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37	ug/L		12/28/23 03:22	1
Bromobenzene	0.50	U	1.0	0.50	0.40	ug/L		12/28/23 03:22	1
Methylcyclohexane	0.40	U	1.0	0.40	0.31	ug/L		12/28/23 03:22	1
Toluene	0.40	U	1.0	0.40	0.32	ug/L		12/28/23 03:22	1
Chlorobenzene	0.80	U	1.0	0.80	0.42	ug/L		12/28/23 03:22	1
Tetrahydrofuran	6.4	U	7.0	6.4	2.0	ug/L		12/28/23 03:22	1
Hexane	0.80	U	2.0	0.80	0.16	ug/L		12/28/23 03:22	1
trans-1,4-Dichloro-2-butene	1.6	U	3.0	1.6	1.4	ug/L		12/28/23 03:22	1
Cyclohexane	0.80	U	1.0	0.80	0.44	ug/L		12/28/23 03:22	1
1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58	ug/L		12/28/23 03:22	1
Chlorodibromomethane	1.8	U	2.0	1.8	0.62	ug/L		12/28/23 03:22	1
Tetrachloroethene	0.80	U	1.0	0.80	0.40	ug/L		12/28/23 03:22	1
sec-Butylbenzene	0.80	U	1.0	0.80	0.45	ug/L		12/28/23 03:22	1
1,3-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/28/23 03:22	1
cis-1,2-Dichloroethene	0.40	U	1.0	0.40	0.32	ug/L		12/28/23 03:22	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	0.37	ug/L		12/28/23 03:22	1
Methyl tert-butyl ether	0.80	U	5.0	0.80	0.25	ug/L		12/28/23 03:22	1
m-Xylene & p-Xylene	0.80	U	2.0	0.80	0.36	ug/L		12/28/23 03:22	1
1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33	ug/L		12/28/23 03:22	1
Carbon tetrachloride	0.80	U	1.0	0.80	0.57	ug/L		12/28/23 03:22	1
1,1-Dichloropropene	0.80	U	1.0	0.80	0.42	ug/L		12/28/23 03:22	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		12/28/23 03:22	1
2,2-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/28/23 03:22	1
Ethyl ether	0.80	U	2.0	0.80	0.35	ug/L		12/28/23 03:22	1
1,1,1,2-Tetrachloroethane	0.80	U	1.0	0.80	0.58	ug/L		12/28/23 03:22	1
Acetone	8.0	U	15	8.0	6.6	ug/L		12/28/23 03:22	1
Chloroform	0.80	U	1.0	0.80	0.36	ug/L		12/28/23 03:22	1
Benzene	0.80	U	1.0	0.80	0.31	ug/L		12/28/23 03:22	1
1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39	ug/L		12/28/23 03:22	1
Bromomethane	4.0	U	5.0	4.0	2.4	ug/L		12/28/23 03:22	1
Chloromethane	1.0	U	2.0	1.0	0.75	ug/L		12/28/23 03:22	1
Iodomethane	4.0	U	5.0	4.0	2.6	ug/L		12/28/23 03:22	1
Dibromomethane	0.40	U	1.0	0.40	0.34	ug/L		12/28/23 03:22	1
Chlorobromomethane	0.80	U	1.0	0.80	0.40	ug/L		12/28/23 03:22	1
Chloroethane	1.6	U	4.0	1.6	1.4	ug/L		12/28/23 03:22	1

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Client Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Client Sample ID: WUABAFMW-01(PDB)

Lab Sample ID: 280-185943-1

Date Collected: 12/18/23 09:18

Matrix: Water

Date Received: 12/20/23 11:35

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Vinyl chloride	1.0	U	2.0	1.0	0.51	ug/L		12/28/23 03:22	1
Methylene Chloride	1.8	U	2.0	1.8	0.94	ug/L		12/28/23 03:22	1
Carbon disulfide	0.80	U	2.0	0.80	0.63	ug/L		12/28/23 03:22	1
Bromoform	1.8	U	2.0	1.8	1.2	ug/L		12/28/23 03:22	1
Dichlorobromomethane	0.50	U	1.0	0.50	0.39	ug/L		12/28/23 03:22	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		12/28/23 03:22	1
1,1-Dichloroethene	0.80	U	1.0	0.80	0.23	ug/L		12/28/23 03:22	1
Trichlorofluoromethane	0.80	U	2.0	0.80	0.57	ug/L		12/28/23 03:22	1
Dichlorodifluoromethane	2.5	U	3.0	2.5	0.96	ug/L		12/28/23 03:22	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.8	U	3.0	1.8	0.73	ug/L		12/28/23 03:22	1
1,2-Dichloropropane	0.80	U	1.0	0.80	0.52	ug/L		12/28/23 03:22	1
2-Butanone (MEK)	12	U	15	12	6.0	ug/L		12/28/23 03:22	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		12/28/23 03:22	1
Trichloroethene	0.40	U	1.0	0.40	0.30	ug/L		12/28/23 03:22	1
Methyl acetate	4.0	U	5.0	4.0	1.6	ug/L		12/28/23 03:22	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		12/28/23 03:22	1
1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70	ug/L		12/28/23 03:22	1
Hexachlorobutadiene	1.8	U	2.0	1.8	1.2	ug/L		12/28/23 03:22	1
Naphthalene	0.80	U	2.0	0.80	0.63	ug/L		12/28/23 03:22	1
o-Xylene	0.40	U	1.0	0.40	0.33	ug/L		12/28/23 03:22	1
2-Chlorotoluene	0.40	U	1.0	0.40	0.34	ug/L		12/28/23 03:22	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37	ug/L		12/28/23 03:22	1
1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15	ug/L		12/28/23 03:22	1
1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8	ug/L		12/28/23 03:22	1
1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86	ug/L		12/28/23 03:22	1
Ethyl methacrylate	2.0	U	3.0	2.0	0.86	ug/L		12/28/23 03:22	1
tert-Butylbenzene	0.80	U	1.0	0.80	0.42	ug/L		12/28/23 03:22	1
Isopropylbenzene	0.50	U	1.0	0.50	0.36	ug/L		12/28/23 03:22	1
4-Isopropyltoluene	0.80	U	1.0	0.80	0.43	ug/L		12/28/23 03:22	1
1,2-Dichloroethene, Total	0.40	U	1.0	0.40	0.32	ug/L		12/28/23 03:22	1
1,3-Dichloropropene, Total	0.80	U	2.0	0.80	0.63	ug/L		12/28/23 03:22	1
Trihalomethanes, Total	0.80	U	1.0	0.80	0.36	ug/L		12/28/23 03:22	1
Total BTEX	0.40	U	1.0	0.40	0.30	ug/L		12/28/23 03:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		81 - 118		12/28/23 03:22	1
Dibromofluoromethane (Surr)	99		80 - 119		12/28/23 03:22	1
Toluene-d8 (Surr)	103		89 - 112		12/28/23 03:22	1
4-Bromofluorobenzene (Surr)	108		85 - 114		12/28/23 03:22	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1'-Biphenyl	8.0	U	10	8.0	1.2	ug/L		12/28/23 13:48	1
2,4-Dichlorophenol	8.0	U	10	8.0	3.0	ug/L		12/28/23 13:48	1
2,4-Dimethylphenol	8.0	U	10	8.0	1.4	ug/L		12/28/23 13:48	1
2,4-Dinitrophenol	20	U Q	30	20	13	ug/L		12/28/23 13:48	1
2,4-Dinitrotoluene	8.0	U	10	8.0	1.4	ug/L		12/28/23 13:48	1
2,4,6-Trichlorophenol	8.0	U	10	8.0	2.3	ug/L		12/28/23 13:48	1
2,4,5-Trichlorophenol	8.0	U	10	8.0	2.6	ug/L		12/28/23 13:48	1
2,2'-oxybis[1-chloropropane]	8.0	U	10	8.0	1.3	ug/L		12/28/23 13:48	1

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Client Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Client Sample ID: WUABAFMW-01(PDB)

Lab Sample ID: 280-185943-1

Date Collected: 12/18/23 09:18

Matrix: Water

Date Received: 12/20/23 11:35

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Di-n-butyl phthalate	3.2	U	4.0	3.2	2.1	ug/L		12/28/23 13:48	1
Di-n-octyl phthalate	8.0	U Q	10	8.0	3.6	ug/L		12/28/23 13:48	1
Benzo[a]anthracene	3.2	U	4.0	3.2	0.96	ug/L		12/28/23 13:48	1
Benzo[a]pyrene	3.2	U M	4.0	3.2	0.50	ug/L		12/28/23 13:48	1
Benzo[b]fluoranthene	3.2	U	4.0	3.2	2.2	ug/L		12/28/23 13:48	1
Benzo[g,h,i]perylene	3.2	U	4.0	3.2	2.8	ug/L		12/28/23 13:48	1
Benzo[k]fluoranthene	3.2	U	4.0	3.2	1.1	ug/L		12/28/23 13:48	1
Acenaphthene	3.2	U	4.0	3.2	0.96	ug/L		12/28/23 13:48	1
Acenaphthylene	3.2	U	4.0	3.2	0.75	ug/L		12/28/23 13:48	1
Acetophenone	8.0	U	10	8.0	2.3	ug/L		12/28/23 13:48	1
Anthracene	3.2	U	4.0	3.2	0.58	ug/L		12/28/23 13:48	1
Atrazine	3.2	U	10	3.2	0.65	ug/L		12/28/23 13:48	1
Benzaldehyde	3.2	U	5.0	3.2	1.2	ug/L		12/28/23 13:48	1
Butyl benzyl phthalate	3.2	U	4.0	3.2	1.5	ug/L		12/28/23 13:48	1
Caprolactam	10	U M	15	10	5.5	ug/L		12/28/23 13:48	1
Chrysene	3.2	U	4.0	3.2	0.97	ug/L		12/28/23 13:48	1
Dibenz(a,h)anthracene	8.0	U	10	8.0	4.8	ug/L		12/28/23 13:48	1
Dibenzofuran	3.2	U	4.0	3.2	0.95	ug/L		12/28/23 13:48	1
Diethyl phthalate	3.2	U	4.0	3.2	1.4	ug/L		12/28/23 13:48	1
Hexachlorobenzene	8.0	U	10	8.0	2.3	ug/L		12/28/23 13:48	1
Hexachlorocyclopentadiene	48	U Q	50	48	16	ug/L		12/28/23 13:48	1
Hexachlorobutadiene	8.0	U Q	10	8.0	2.9	ug/L		12/28/23 13:48	1
Hexachloroethane	8.0	U Q	10	8.0	4.5	ug/L		12/28/23 13:48	1
Fluoranthene	3.2	U	4.0	3.2	1.1	ug/L		12/28/23 13:48	1
Fluorene	3.2	U	4.0	3.2	0.78	ug/L		12/28/23 13:48	1
Indeno[1,2,3-cd]pyrene	8.0	U	10	8.0	3.4	ug/L		12/28/23 13:48	1
Isophorone	8.0	U	10	8.0	2.0	ug/L		12/28/23 13:48	1
N-Nitrosodi-n-propylamine	8.0	U M	10	8.0	1.9	ug/L		12/28/23 13:48	1
N-Nitrosodiphenylamine	8.0	U M	10	8.0	1.8	ug/L		12/28/23 13:48	1
Naphthalene	3.2	U	4.0	3.2	1.5	ug/L		12/28/23 13:48	1
Nitrobenzene	8.0	U	10	8.0	1.3	ug/L		12/28/23 13:48	1
Pentachlorophenol	48	U	50	48	20	ug/L		12/28/23 13:48	1
Phenanthrene	3.2	U	4.0	3.2	1.6	ug/L		12/28/23 13:48	1
Phenol	8.0	U	10	8.0	0.92	ug/L		12/28/23 13:48	1
Pyrene	8.0	U	10	8.0	2.4	ug/L		12/28/23 13:48	1
2-Chloronaphthalene	3.2	U	4.0	3.2	1.3	ug/L		12/28/23 13:48	1
2-Chlorophenol	8.0	U	10	8.0	2.6	ug/L		12/28/23 13:48	1
2-Methylnaphthalene	3.2	U	4.0	3.2	1.2	ug/L		12/28/23 13:48	1
2-Methylphenol	8.0	U	10	8.0	0.77	ug/L		12/28/23 13:48	1
2-Nitroaniline	3.2	U	10	3.2	2.6	ug/L		12/28/23 13:48	1
2-Nitrophenol	8.0	U	10	8.0	3.5	ug/L		12/28/23 13:48	1
3,3'-Dichlorobenzidine	30	U	50	30	3.4	ug/L		12/28/23 13:48	1
3-Nitroaniline	8.0	U	10	8.0	3.3	ug/L		12/28/23 13:48	1
4,6-Dinitro-2-methylphenol	30	U	50	30	4.0	ug/L		12/28/23 13:48	1
4-Bromophenyl phenyl ether	8.0	U	10	8.0	1.0	ug/L		12/28/23 13:48	1
4-Nitroaniline	8.0	U	10	8.0	2.6	ug/L		12/28/23 13:48	1
4-Nitrophenol	13	U Q	25	13	9.1	ug/L		12/28/23 13:48	1
Bis(2-chloroethoxy)methane	8.0	U	10	8.0	2.4	ug/L		12/28/23 13:48	1
Bis(2-chloroethyl)ether	8.0	U	10	8.0	2.0	ug/L		12/28/23 13:48	1

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Client Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Client Sample ID: WUABAFMW-01(PDB)

Lab Sample ID: 280-185943-1

Date Collected: 12/18/23 09:18

Matrix: Water

Date Received: 12/20/23 11:35

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	4.6	J Q	10	8.0	3.3	ug/L		12/28/23 13:48	1
2,6-Dinitrotoluene	8.0	U	10	8.0	1.4	ug/L		12/28/23 13:48	1
4-Chloro-3-methylphenol	8.0	U	10	8.0	1.7	ug/L		12/28/23 13:48	1
4-Chloroaniline	13	U	20	13	6.3	ug/L		12/28/23 13:48	1
4-Chlorophenyl phenyl ether	8.0	U	10	8.0	1.2	ug/L		12/28/23 13:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol (Surr)	47		19 - 119	12/22/23 12:57	12/28/23 13:48	1
Phenol-d5 (Surr)	39		10 - 115	12/22/23 12:57	12/28/23 13:48	1
Nitrobenzene-d5 (Surr)	57		44 - 120	12/22/23 12:57	12/28/23 13:48	1
2-Fluorobiphenyl	48		44 - 119	12/22/23 12:57	12/28/23 13:48	1
2,4,6-Tribromophenol (Surr)	61		43 - 140	12/22/23 12:57	12/28/23 13:48	1
Terphenyl-d14 (Surr)	98		50 - 134	12/22/23 12:57	12/28/23 13:48	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	0.014	U Q	0.020	0.014	0.0037	ug/L		12/22/23 19:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	117		70 - 130	12/22/23 08:41	12/22/23 19:51	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Calcium	33000		200	64	24	ug/L		12/31/23 06:44	1
Magnesium	4500		200	15	4.2	ug/L		12/31/23 06:44	1
Potassium	3000		3000	940	240	ug/L		12/31/23 06:44	1
Sodium	26000		1000	320	97	ug/L		12/31/23 06:44	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	30	J	100	34	9.1	ug/L		01/04/24 21:34	1
Manganese	190		10	1.8	0.45	ug/L		01/04/24 21:34	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	1.7	J	5.0	2.0	0.50	ug/L		12/27/23 19:19	1
Lead	0.70	U	1.0	0.70	0.23	ug/L		12/27/23 19:19	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bromide (EPA 300.0)	0.40	U	0.50	0.40	0.23	mg/L		12/29/23 00:16	1
Chloride (EPA 300.0)	7.7		3.0	2.5	1.0	mg/L		12/29/23 00:16	1
Sulfate (EPA 300.0)	26		5.0	2.5	1.0	mg/L		12/29/23 00:16	1
Nitrate Nitrite as N (EPA 353.2)	0.049	J	0.10	0.080	0.044	mg/L		01/02/24 13:22	1
Alkalinity (SM 2320B)	120		10	6.4	3.1	mg/L		12/22/23 00:00	1

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Client Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Client Sample ID: WUABAFMW-01(BP)

Lab Sample ID: 280-185943-2

Date Collected: 12/18/23 14:30

Matrix: Water

Date Received: 12/20/23 11:35

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylbenzene	0.40	U	1.0	0.40	0.30	ug/L		12/28/23 03:45	1
Styrene	0.80	U	1.0	0.80	0.36	ug/L		12/28/23 03:45	1
cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63	ug/L		12/28/23 03:45	1
trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65	ug/L		12/28/23 03:45	1
N-Propylbenzene	0.80	U	1.0	0.80	0.53	ug/L		12/28/23 03:45	1
n-Butylbenzene	0.80	U	1.0	0.80	0.48	ug/L		12/28/23 03:45	1
4-Chlorotoluene	0.80	U	1.0	0.80	0.21	ug/L		12/28/23 03:45	1
1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39	ug/L		12/28/23 03:45	1
Ethylene Dibromide	0.80	U	1.0	0.80	0.40	ug/L		12/28/23 03:45	1
3-Chloro-1-propene	0.40	U	2.0	0.40	0.17	ug/L		12/28/23 03:45	1
1,2-Dichloroethane	0.80	U	1.0	0.80	0.54	ug/L		12/28/23 03:45	1
Acrylonitrile	8.0	U	20	8.0	4.5	ug/L		12/28/23 03:45	1
Vinyl acetate	2.0	U	3.0	2.0	0.94	ug/L		12/28/23 03:45	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		12/28/23 03:45	1
1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37	ug/L		12/28/23 03:45	1
Bromobenzene	0.50	U	1.0	0.50	0.40	ug/L		12/28/23 03:45	1
Methylcyclohexane	0.40	U	1.0	0.40	0.31	ug/L		12/28/23 03:45	1
Toluene	0.40	U	1.0	0.40	0.32	ug/L		12/28/23 03:45	1
Chlorobenzene	0.80	U	1.0	0.80	0.42	ug/L		12/28/23 03:45	1
Tetrahydrofuran	6.4	U	7.0	6.4	2.0	ug/L		12/28/23 03:45	1
Hexane	0.80	U	2.0	0.80	0.16	ug/L		12/28/23 03:45	1
trans-1,4-Dichloro-2-butene	1.6	U	3.0	1.6	1.4	ug/L		12/28/23 03:45	1
Cyclohexane	0.80	U	1.0	0.80	0.44	ug/L		12/28/23 03:45	1
1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58	ug/L		12/28/23 03:45	1
Chlorodibromomethane	1.8	U	2.0	1.8	0.62	ug/L		12/28/23 03:45	1
Tetrachloroethene	0.80	U	1.0	0.80	0.40	ug/L		12/28/23 03:45	1
sec-Butylbenzene	0.80	U	1.0	0.80	0.45	ug/L		12/28/23 03:45	1
1,3-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/28/23 03:45	1
cis-1,2-Dichloroethene	0.40	U	1.0	0.40	0.32	ug/L		12/28/23 03:45	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	0.37	ug/L		12/28/23 03:45	1
Methyl tert-butyl ether	0.80	U	5.0	0.80	0.25	ug/L		12/28/23 03:45	1
m-Xylene & p-Xylene	0.80	U	2.0	0.80	0.36	ug/L		12/28/23 03:45	1
1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33	ug/L		12/28/23 03:45	1
Carbon tetrachloride	0.80	U	1.0	0.80	0.57	ug/L		12/28/23 03:45	1
1,1-Dichloropropene	0.80	U	1.0	0.80	0.42	ug/L		12/28/23 03:45	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		12/28/23 03:45	1
2,2-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/28/23 03:45	1
Ethyl ether	0.80	U	2.0	0.80	0.35	ug/L		12/28/23 03:45	1
1,1,1,2-Tetrachloroethane	0.80	U	1.0	0.80	0.58	ug/L		12/28/23 03:45	1
Acetone	8.0	U	15	8.0	6.6	ug/L		12/28/23 03:45	1
Chloroform	0.80	U	1.0	0.80	0.36	ug/L		12/28/23 03:45	1
Benzene	0.80	U	1.0	0.80	0.31	ug/L		12/28/23 03:45	1
1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39	ug/L		12/28/23 03:45	1
Bromomethane	4.0	U	5.0	4.0	2.4	ug/L		12/28/23 03:45	1
Chloromethane	1.0	U	2.0	1.0	0.75	ug/L		12/28/23 03:45	1
Iodomethane	4.0	U	5.0	4.0	2.6	ug/L		12/28/23 03:45	1
Dibromomethane	0.40	U	1.0	0.40	0.34	ug/L		12/28/23 03:45	1
Chlorobromomethane	0.80	U	1.0	0.80	0.40	ug/L		12/28/23 03:45	1
Chloroethane	1.6	U	4.0	1.6	1.4	ug/L		12/28/23 03:45	1

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Client Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Client Sample ID: WUABAFMW-01(BP)

Lab Sample ID: 280-185943-2

Date Collected: 12/18/23 14:30

Matrix: Water

Date Received: 12/20/23 11:35

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Vinyl chloride	1.0	U	2.0	1.0	0.51	ug/L		12/28/23 03:45	1
Methylene Chloride	1.8	U	2.0	1.8	0.94	ug/L		12/28/23 03:45	1
Carbon disulfide	0.80	U	2.0	0.80	0.63	ug/L		12/28/23 03:45	1
Bromoform	1.8	U	2.0	1.8	1.2	ug/L		12/28/23 03:45	1
Dichlorobromomethane	0.50	U	1.0	0.50	0.39	ug/L		12/28/23 03:45	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		12/28/23 03:45	1
1,1-Dichloroethene	0.80	U	1.0	0.80	0.23	ug/L		12/28/23 03:45	1
Trichlorofluoromethane	0.80	U	2.0	0.80	0.57	ug/L		12/28/23 03:45	1
Dichlorodifluoromethane	2.5	U	3.0	2.5	0.96	ug/L		12/28/23 03:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.8	U	3.0	1.8	0.73	ug/L		12/28/23 03:45	1
1,2-Dichloropropane	0.80	U	1.0	0.80	0.52	ug/L		12/28/23 03:45	1
2-Butanone (MEK)	12	U	15	12	6.0	ug/L		12/28/23 03:45	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		12/28/23 03:45	1
Trichloroethene	0.40	U	1.0	0.40	0.30	ug/L		12/28/23 03:45	1
Methyl acetate	4.0	U	5.0	4.0	1.6	ug/L		12/28/23 03:45	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		12/28/23 03:45	1
1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70	ug/L		12/28/23 03:45	1
Hexachlorobutadiene	1.8	U	2.0	1.8	1.2	ug/L		12/28/23 03:45	1
Naphthalene	0.80	U	2.0	0.80	0.63	ug/L		12/28/23 03:45	1
o-Xylene	0.40	U	1.0	0.40	0.33	ug/L		12/28/23 03:45	1
2-Chlorotoluene	0.40	U	1.0	0.40	0.34	ug/L		12/28/23 03:45	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37	ug/L		12/28/23 03:45	1
1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15	ug/L		12/28/23 03:45	1
1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8	ug/L		12/28/23 03:45	1
1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86	ug/L		12/28/23 03:45	1
Ethyl methacrylate	2.0	U	3.0	2.0	0.86	ug/L		12/28/23 03:45	1
tert-Butylbenzene	0.80	U	1.0	0.80	0.42	ug/L		12/28/23 03:45	1
Isopropylbenzene	0.50	U	1.0	0.50	0.36	ug/L		12/28/23 03:45	1
4-Isopropyltoluene	0.80	U	1.0	0.80	0.43	ug/L		12/28/23 03:45	1
1,2-Dichloroethene, Total	0.40	U	1.0	0.40	0.32	ug/L		12/28/23 03:45	1
1,3-Dichloropropene, Total	0.80	U	2.0	0.80	0.63	ug/L		12/28/23 03:45	1
Trihalomethanes, Total	0.80	U	1.0	0.80	0.36	ug/L		12/28/23 03:45	1
Total BTEX	0.40	U	1.0	0.40	0.30	ug/L		12/28/23 03:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		81 - 118		12/28/23 03:45	1
Dibromofluoromethane (Surr)	99		80 - 119		12/28/23 03:45	1
Toluene-d8 (Surr)	101		89 - 112		12/28/23 03:45	1
4-Bromofluorobenzene (Surr)	109		85 - 114		12/28/23 03:45	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1'-Biphenyl	8.0	U	10	8.0	1.2	ug/L		12/29/23 16:30	1
2,4-Dichlorophenol	8.0	U	10	8.0	3.0	ug/L		12/29/23 16:30	1
2,4-Dimethylphenol	8.0	U	10	8.0	1.4	ug/L		12/29/23 16:30	1
2,4-Dinitrophenol	20	U Q	30	20	13	ug/L		12/29/23 16:30	1
2,4-Dinitrotoluene	8.0	U	10	8.0	1.4	ug/L		12/29/23 16:30	1
2,4,6-Trichlorophenol	8.0	U	10	8.0	2.3	ug/L		12/29/23 16:30	1
2,4,5-Trichlorophenol	8.0	U	10	8.0	2.6	ug/L		12/29/23 16:30	1
2,2'-oxybis[1-chloropropane]	8.0	U	10	8.0	1.3	ug/L		12/29/23 16:30	1

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Client Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Client Sample ID: WUABAFMW-01(BP)

Lab Sample ID: 280-185943-2

Date Collected: 12/18/23 14:30

Matrix: Water

Date Received: 12/20/23 11:35

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Di-n-butyl phthalate	3.2	U	4.0	3.2	2.1	ug/L		12/29/23 16:30	1
Di-n-octyl phthalate	8.0	U	10	8.0	3.6	ug/L		12/29/23 16:30	1
Benzo[a]anthracene	3.2	U	4.0	3.2	0.96	ug/L		12/29/23 16:30	1
Benzo[a]pyrene	3.2	U M	4.0	3.2	0.50	ug/L		12/29/23 16:30	1
Benzo[b]fluoranthene	3.2	U	4.0	3.2	2.2	ug/L		12/29/23 16:30	1
Benzo[g,h,i]perylene	3.2	U	4.0	3.2	2.8	ug/L		12/29/23 16:30	1
Benzo[k]fluoranthene	3.2	U	4.0	3.2	1.1	ug/L		12/29/23 16:30	1
Acenaphthene	3.2	U	4.0	3.2	0.96	ug/L		12/29/23 16:30	1
Acenaphthylene	3.2	U	4.0	3.2	0.75	ug/L		12/29/23 16:30	1
Acetophenone	8.0	U	10	8.0	2.3	ug/L		12/29/23 16:30	1
Anthracene	3.2	U	4.0	3.2	0.58	ug/L		12/29/23 16:30	1
Atrazine	3.2	U	10	3.2	0.65	ug/L		12/29/23 16:30	1
Benzaldehyde	3.2	U	5.0	3.2	1.2	ug/L		12/29/23 16:30	1
Butyl benzyl phthalate	3.2	U	4.0	3.2	1.5	ug/L		12/29/23 16:30	1
Caprolactam	10	U	15	10	5.5	ug/L		12/29/23 16:30	1
Chrysene	3.2	U	4.0	3.2	0.97	ug/L		12/29/23 16:30	1
Dibenz(a,h)anthracene	8.0	U	10	8.0	4.8	ug/L		12/29/23 16:30	1
Dibenzofuran	3.2	U	4.0	3.2	0.95	ug/L		12/29/23 16:30	1
Diethyl phthalate	3.2	U	4.0	3.2	1.4	ug/L		12/29/23 16:30	1
Hexachlorobenzene	8.0	U	10	8.0	2.3	ug/L		12/29/23 16:30	1
Hexachlorocyclopentadiene	48	U Q	50	48	16	ug/L		12/29/23 16:30	1
Hexachlorobutadiene	8.0	U Q	10	8.0	2.9	ug/L		12/29/23 16:30	1
Hexachloroethane	8.0	U Q	10	8.0	4.5	ug/L		12/29/23 16:30	1
Fluoranthene	3.2	U	4.0	3.2	1.1	ug/L		12/29/23 16:30	1
Fluorene	3.2	U	4.0	3.2	0.78	ug/L		12/29/23 16:30	1
Indeno[1,2,3-cd]pyrene	8.0	U	10	8.0	3.4	ug/L		12/29/23 16:30	1
Isophorone	8.0	U	10	8.0	2.0	ug/L		12/29/23 16:30	1
N-Nitrosodi-n-propylamine	8.0	U M	10	8.0	1.9	ug/L		12/29/23 16:30	1
N-Nitrosodiphenylamine	8.0	U	10	8.0	1.8	ug/L		12/29/23 16:30	1
Naphthalene	3.2	U	4.0	3.2	1.5	ug/L		12/29/23 16:30	1
Nitrobenzene	8.0	U	10	8.0	1.3	ug/L		12/29/23 16:30	1
Pentachlorophenol	48	U	50	48	20	ug/L		12/29/23 16:30	1
Phenanthrene	3.2	U	4.0	3.2	1.6	ug/L		12/29/23 16:30	1
Phenol	8.0	U M	10	8.0	0.92	ug/L		12/29/23 16:30	1
Pyrene	8.0	U	10	8.0	2.4	ug/L		12/29/23 16:30	1
2-Chloronaphthalene	3.2	U	4.0	3.2	1.3	ug/L		12/29/23 16:30	1
2-Chlorophenol	8.0	U	10	8.0	2.6	ug/L		12/29/23 16:30	1
2-Methylnaphthalene	3.2	U	4.0	3.2	1.2	ug/L		12/29/23 16:30	1
2-Methylphenol	8.0	U	10	8.0	0.77	ug/L		12/29/23 16:30	1
2-Nitroaniline	3.2	U M	10	3.2	2.6	ug/L		12/29/23 16:30	1
2-Nitrophenol	8.0	U	10	8.0	3.5	ug/L		12/29/23 16:30	1
3,3'-Dichlorobenzidine	30	U	50	30	3.4	ug/L		12/29/23 16:30	1
3-Nitroaniline	8.0	U	10	8.0	3.3	ug/L		12/29/23 16:30	1
4,6-Dinitro-2-methylphenol	30	U	50	30	4.0	ug/L		12/29/23 16:30	1
4-Bromophenyl phenyl ether	8.0	U	10	8.0	1.0	ug/L		12/29/23 16:30	1
4-Nitroaniline	8.0	U	10	8.0	2.6	ug/L		12/29/23 16:30	1
4-Nitrophenol	13	U	25	13	9.1	ug/L		12/29/23 16:30	1
Bis(2-chloroethoxy)methane	8.0	U	10	8.0	2.4	ug/L		12/29/23 16:30	1
Bis(2-chloroethyl)ether	8.0	U	10	8.0	2.0	ug/L		12/29/23 16:30	1

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Client Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Client Sample ID: WUABAFMW-01(BP)

Lab Sample ID: 280-185943-2

Date Collected: 12/18/23 14:30

Matrix: Water

Date Received: 12/20/23 11:35

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	4.8	J	10	8.0	3.3	ug/L		12/29/23 16:30	1
2,6-Dinitrotoluene	8.0	U	10	8.0	1.4	ug/L		12/29/23 16:30	1
4-Chloro-3-methylphenol	8.0	U	10	8.0	1.7	ug/L		12/29/23 16:30	1
4-Chloroaniline	13	U	20	13	6.3	ug/L		12/29/23 16:30	1
4-Chlorophenyl phenyl ether	8.0	U	10	8.0	1.2	ug/L		12/29/23 16:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol (Surr)	53		19 - 119	12/22/23 12:57	12/29/23 16:30	1
Phenol-d5 (Surr)	48		10 - 115	12/22/23 12:57	12/29/23 16:30	1
Nitrobenzene-d5 (Surr)	63		44 - 120	12/22/23 12:57	12/29/23 16:30	1
2-Fluorobiphenyl	46		44 - 119	12/22/23 12:57	12/29/23 16:30	1
2,4,6-Tribromophenol (Surr)	67		43 - 140	12/22/23 12:57	12/29/23 16:30	1
Terphenyl-d14 (Surr)	100		50 - 134	12/22/23 12:57	12/29/23 16:30	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	0.014	U Q	0.020	0.014	0.0037	ug/L		12/22/23 20:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	114		70 - 130	12/22/23 08:41	12/22/23 20:19	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Calcium	33000		200	64	24	ug/L		12/31/23 06:49	1
Magnesium	4600		200	15	4.2	ug/L		12/31/23 06:49	1
Potassium	2800	J	3000	940	240	ug/L		12/31/23 06:49	1
Sodium	24000		1000	320	97	ug/L		12/31/23 06:49	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	31	J	100	34	9.1	ug/L		01/04/24 22:10	1
Manganese	210		10	1.8	0.45	ug/L		01/04/24 22:10	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	0.92	J	5.0	2.0	0.50	ug/L		12/27/23 19:22	1
Lead	0.70	U	1.0	0.70	0.23	ug/L		12/27/23 19:22	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bromide (EPA 300.0)	0.40	U	0.50	0.40	0.23	mg/L		12/29/23 01:01	1
Chloride (EPA 300.0)	7.2		3.0	2.5	1.0	mg/L		12/29/23 01:01	1
Sulfate (EPA 300.0)	27	J1	5.0	2.5	1.0	mg/L		12/29/23 01:01	1
Nitrate Nitrite as N (EPA 353.2)	0.16		0.10	0.080	0.044	mg/L		01/02/24 13:23	1
Alkalinity (SM 2320B)	120		10	6.4	3.1	mg/L		12/22/23 00:06	1

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Client Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Client Sample ID: Equip Rinsate

Lab Sample ID: 280-185943-3

Date Collected: 12/18/23 15:25

Matrix: Water

Date Received: 12/20/23 11:35

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylbenzene	0.40	U	1.0	0.40	0.30	ug/L		12/28/23 01:05	1
Styrene	0.80	U	1.0	0.80	0.36	ug/L		12/28/23 01:05	1
cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63	ug/L		12/28/23 01:05	1
trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65	ug/L		12/28/23 01:05	1
N-Propylbenzene	0.80	U	1.0	0.80	0.53	ug/L		12/28/23 01:05	1
n-Butylbenzene	0.80	U	1.0	0.80	0.48	ug/L		12/28/23 01:05	1
4-Chlorotoluene	0.80	U	1.0	0.80	0.21	ug/L		12/28/23 01:05	1
1,4-Dichlorobenzene	0.50	U	1.0	0.50	0.39	ug/L		12/28/23 01:05	1
Ethylene Dibromide	0.80	U	1.0	0.80	0.40	ug/L		12/28/23 01:05	1
3-Chloro-1-propene	0.40	U	2.0	0.40	0.17	ug/L		12/28/23 01:05	1
1,2-Dichloroethane	0.80	U	1.0	0.80	0.54	ug/L		12/28/23 01:05	1
Acrylonitrile	8.0	U	20	8.0	4.5	ug/L		12/28/23 01:05	1
Vinyl acetate	2.0	U	3.0	2.0	0.94	ug/L		12/28/23 01:05	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		12/28/23 01:05	1
1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37	ug/L		12/28/23 01:05	1
Bromobenzene	0.50	U	1.0	0.50	0.40	ug/L		12/28/23 01:05	1
Methylcyclohexane	0.40	U	1.0	0.40	0.31	ug/L		12/28/23 01:05	1
Toluene	0.40	U	1.0	0.40	0.32	ug/L		12/28/23 01:05	1
Chlorobenzene	0.80	U	1.0	0.80	0.42	ug/L		12/28/23 01:05	1
Tetrahydrofuran	6.4	U	7.0	6.4	2.0	ug/L		12/28/23 01:05	1
Hexane	0.80	U	2.0	0.80	0.16	ug/L		12/28/23 01:05	1
trans-1,4-Dichloro-2-butene	1.6	U	3.0	1.6	1.4	ug/L		12/28/23 01:05	1
Cyclohexane	0.80	U	1.0	0.80	0.44	ug/L		12/28/23 01:05	1
1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58	ug/L		12/28/23 01:05	1
Chlorodibromomethane	1.8	U	2.0	1.8	0.62	ug/L		12/28/23 01:05	1
Tetrachloroethene	0.80	U	1.0	0.80	0.40	ug/L		12/28/23 01:05	1
sec-Butylbenzene	0.80	U	1.0	0.80	0.45	ug/L		12/28/23 01:05	1
1,3-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/28/23 01:05	1
cis-1,2-Dichloroethene	0.40	U	1.0	0.40	0.32	ug/L		12/28/23 01:05	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	0.37	ug/L		12/28/23 01:05	1
Methyl tert-butyl ether	0.80	U	5.0	0.80	0.25	ug/L		12/28/23 01:05	1
m-Xylene & p-Xylene	0.80	U	2.0	0.80	0.36	ug/L		12/28/23 01:05	1
1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33	ug/L		12/28/23 01:05	1
Carbon tetrachloride	0.80	U	1.0	0.80	0.57	ug/L		12/28/23 01:05	1
1,1-Dichloropropene	0.80	U	1.0	0.80	0.42	ug/L		12/28/23 01:05	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		12/28/23 01:05	1
2,2-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/28/23 01:05	1
Ethyl ether	0.80	U	2.0	0.80	0.35	ug/L		12/28/23 01:05	1
1,1,1,2-Tetrachloroethane	0.80	U	1.0	0.80	0.58	ug/L		12/28/23 01:05	1
Acetone	8.0	U	15	8.0	6.6	ug/L		12/28/23 01:05	1
Chloroform	0.80	U	1.0	0.80	0.36	ug/L		12/28/23 01:05	1
Benzene	0.80	U	1.0	0.80	0.31	ug/L		12/28/23 01:05	1
1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39	ug/L		12/28/23 01:05	1
Bromomethane	4.0	U	5.0	4.0	2.4	ug/L		12/28/23 01:05	1
Chloromethane	1.0	U	2.0	1.0	0.75	ug/L		12/28/23 01:05	1
Iodomethane	4.0	U	5.0	4.0	2.6	ug/L		12/28/23 01:05	1
Dibromomethane	0.40	U	1.0	0.40	0.34	ug/L		12/28/23 01:05	1
Chlorobromomethane	0.80	U	1.0	0.80	0.40	ug/L		12/28/23 01:05	1
Chloroethane	1.6	U	4.0	1.6	1.4	ug/L		12/28/23 01:05	1

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Client Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Client Sample ID: Equip Rinsate

Lab Sample ID: 280-185943-3

Date Collected: 12/18/23 15:25

Matrix: Water

Date Received: 12/20/23 11:35

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Vinyl chloride	1.0	U	2.0	1.0	0.51	ug/L		12/28/23 01:05	1
Methylene Chloride	1.8	U	2.0	1.8	0.94	ug/L		12/28/23 01:05	1
Carbon disulfide	0.80	U	2.0	0.80	0.63	ug/L		12/28/23 01:05	1
Bromoform	1.8	U	2.0	1.8	1.2	ug/L		12/28/23 01:05	1
Dichlorobromomethane	0.50	U	1.0	0.50	0.39	ug/L		12/28/23 01:05	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		12/28/23 01:05	1
1,1-Dichloroethene	0.80	U	1.0	0.80	0.23	ug/L		12/28/23 01:05	1
Trichlorofluoromethane	0.80	U	2.0	0.80	0.57	ug/L		12/28/23 01:05	1
Dichlorodifluoromethane	2.5	U	3.0	2.5	0.96	ug/L		12/28/23 01:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.8	U	3.0	1.8	0.73	ug/L		12/28/23 01:05	1
1,2-Dichloropropane	0.80	U	1.0	0.80	0.52	ug/L		12/28/23 01:05	1
2-Butanone (MEK)	12	U	15	12	6.0	ug/L		12/28/23 01:05	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		12/28/23 01:05	1
Trichloroethene	0.40	U	1.0	0.40	0.30	ug/L		12/28/23 01:05	1
Methyl acetate	4.0	U	5.0	4.0	1.6	ug/L		12/28/23 01:05	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		12/28/23 01:05	1
1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70	ug/L		12/28/23 01:05	1
Hexachlorobutadiene	1.8	U	2.0	1.8	1.2	ug/L		12/28/23 01:05	1
Naphthalene	0.80	U	2.0	0.80	0.63	ug/L		12/28/23 01:05	1
o-Xylene	0.40	U	1.0	0.40	0.33	ug/L		12/28/23 01:05	1
2-Chlorotoluene	0.40	U	1.0	0.40	0.34	ug/L		12/28/23 01:05	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37	ug/L		12/28/23 01:05	1
1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15	ug/L		12/28/23 01:05	1
1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8	ug/L		12/28/23 01:05	1
1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86	ug/L		12/28/23 01:05	1
Ethyl methacrylate	2.0	U	3.0	2.0	0.86	ug/L		12/28/23 01:05	1
tert-Butylbenzene	0.80	U	1.0	0.80	0.42	ug/L		12/28/23 01:05	1
Isopropylbenzene	0.50	U	1.0	0.50	0.36	ug/L		12/28/23 01:05	1
4-Isopropyltoluene	0.80	U	1.0	0.80	0.43	ug/L		12/28/23 01:05	1
1,2-Dichloroethene, Total	0.40	U	1.0	0.40	0.32	ug/L		12/28/23 01:05	1
1,3-Dichloropropene, Total	0.80	U	2.0	0.80	0.63	ug/L		12/28/23 01:05	1
Trihalomethanes, Total	0.80	U	1.0	0.80	0.36	ug/L		12/28/23 01:05	1
Total BTEX	0.40	U	1.0	0.40	0.30	ug/L		12/28/23 01:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		81 - 118		12/28/23 01:05	1
Dibromofluoromethane (Surr)	97		80 - 119		12/28/23 01:05	1
Toluene-d8 (Surr)	103		89 - 112		12/28/23 01:05	1
4-Bromofluorobenzene (Surr)	111		85 - 114		12/28/23 01:05	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1'-Biphenyl	8.0	U	10	8.0	1.2	ug/L		12/28/23 14:33	1
2,4-Dichlorophenol	8.0	U	10	8.0	3.0	ug/L		12/28/23 14:33	1
2,4-Dimethylphenol	8.0	U	10	8.0	1.4	ug/L		12/28/23 14:33	1
2,4-Dinitrophenol	20	U Q	30	20	13	ug/L		12/28/23 14:33	1
2,4-Dinitrotoluene	8.0	U	10	8.0	1.4	ug/L		12/28/23 14:33	1
2,4,6-Trichlorophenol	8.0	U	10	8.0	2.3	ug/L		12/28/23 14:33	1
2,4,5-Trichlorophenol	8.0	U	10	8.0	2.6	ug/L		12/28/23 14:33	1
2,2'-oxybis[1-chloropropane]	8.0	U	10	8.0	1.3	ug/L		12/28/23 14:33	1

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Client Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Client Sample ID: Equip Rinsate

Lab Sample ID: 280-185943-3

Date Collected: 12/18/23 15:25

Matrix: Water

Date Received: 12/20/23 11:35

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Di-n-butyl phthalate	3.2	U	4.0	3.2	2.1	ug/L		12/28/23 14:33	1
Di-n-octyl phthalate	8.0	U Q	10	8.0	3.6	ug/L		12/28/23 14:33	1
Benzo[a]anthracene	3.2	U	4.0	3.2	0.96	ug/L		12/28/23 14:33	1
Benzo[a]pyrene	3.2	U M	4.0	3.2	0.50	ug/L		12/28/23 14:33	1
Benzo[b]fluoranthene	3.2	U	4.0	3.2	2.2	ug/L		12/28/23 14:33	1
Benzo[g,h,i]perylene	3.2	U	4.0	3.2	2.8	ug/L		12/28/23 14:33	1
Benzo[k]fluoranthene	3.2	U	4.0	3.2	1.1	ug/L		12/28/23 14:33	1
Acenaphthene	3.2	U	4.0	3.2	0.96	ug/L		12/28/23 14:33	1
Acenaphthylene	3.2	U	4.0	3.2	0.75	ug/L		12/28/23 14:33	1
Acetophenone	8.0	U	10	8.0	2.3	ug/L		12/28/23 14:33	1
Anthracene	3.2	U	4.0	3.2	0.58	ug/L		12/28/23 14:33	1
Atrazine	3.2	U	10	3.2	0.65	ug/L		12/28/23 14:33	1
Benzaldehyde	3.2	U	5.0	3.2	1.2	ug/L		12/28/23 14:33	1
Butyl benzyl phthalate	3.2	U	4.0	3.2	1.5	ug/L		12/28/23 14:33	1
Caprolactam	10	U	15	10	5.5	ug/L		12/28/23 14:33	1
Chrysene	3.2	U	4.0	3.2	0.97	ug/L		12/28/23 14:33	1
Dibenz(a,h)anthracene	8.0	U	10	8.0	4.8	ug/L		12/28/23 14:33	1
Dibenzofuran	3.2	U	4.0	3.2	0.95	ug/L		12/28/23 14:33	1
Diethyl phthalate	3.2	U	4.0	3.2	1.4	ug/L		12/28/23 14:33	1
Hexachlorobenzene	8.0	U	10	8.0	2.3	ug/L		12/28/23 14:33	1
Hexachlorocyclopentadiene	48	U Q	50	48	16	ug/L		12/28/23 14:33	1
Hexachlorobutadiene	8.0	U Q	10	8.0	2.9	ug/L		12/28/23 14:33	1
Hexachloroethane	8.0	U Q	10	8.0	4.5	ug/L		12/28/23 14:33	1
Fluoranthene	3.2	U	4.0	3.2	1.1	ug/L		12/28/23 14:33	1
Fluorene	3.2	U	4.0	3.2	0.78	ug/L		12/28/23 14:33	1
Indeno[1,2,3-cd]pyrene	8.0	U	10	8.0	3.4	ug/L		12/28/23 14:33	1
Isophorone	8.0	U	10	8.0	2.0	ug/L		12/28/23 14:33	1
N-Nitrosodi-n-propylamine	8.0	U	10	8.0	1.9	ug/L		12/28/23 14:33	1
N-Nitrosodiphenylamine	8.0	U M	10	8.0	1.8	ug/L		12/28/23 14:33	1
Naphthalene	3.2	U	4.0	3.2	1.5	ug/L		12/28/23 14:33	1
Nitrobenzene	8.0	U	10	8.0	1.3	ug/L		12/28/23 14:33	1
Pentachlorophenol	48	U	50	48	20	ug/L		12/28/23 14:33	1
Phenanthrene	3.2	U	4.0	3.2	1.6	ug/L		12/28/23 14:33	1
Phenol	8.0	U M	10	8.0	0.92	ug/L		12/28/23 14:33	1
Pyrene	8.0	U	10	8.0	2.4	ug/L		12/28/23 14:33	1
2-Chloronaphthalene	3.2	U	4.0	3.2	1.3	ug/L		12/28/23 14:33	1
2-Chlorophenol	8.0	U	10	8.0	2.6	ug/L		12/28/23 14:33	1
2-Methylnaphthalene	3.2	U	4.0	3.2	1.2	ug/L		12/28/23 14:33	1
2-Methylphenol	8.0	U	10	8.0	0.77	ug/L		12/28/23 14:33	1
2-Nitroaniline	3.2	U M	10	3.2	2.6	ug/L		12/28/23 14:33	1
2-Nitrophenol	8.0	U	10	8.0	3.5	ug/L		12/28/23 14:33	1
3,3'-Dichlorobenzidine	30	U	50	30	3.4	ug/L		12/28/23 14:33	1
3-Nitroaniline	8.0	U	10	8.0	3.3	ug/L		12/28/23 14:33	1
4,6-Dinitro-2-methylphenol	30	U	50	30	4.0	ug/L		12/28/23 14:33	1
4-Bromophenyl phenyl ether	8.0	U	10	8.0	1.0	ug/L		12/28/23 14:33	1
4-Nitroaniline	8.0	U	10	8.0	2.6	ug/L		12/28/23 14:33	1
4-Nitrophenol	13	U Q	25	13	9.1	ug/L		12/28/23 14:33	1
Bis(2-chloroethoxy)methane	8.0	U	10	8.0	2.4	ug/L		12/28/23 14:33	1
Bis(2-chloroethyl)ether	8.0	U	10	8.0	2.0	ug/L		12/28/23 14:33	1

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Client Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Client Sample ID: Equip Rinsate

Lab Sample ID: 280-185943-3

Date Collected: 12/18/23 15:25

Matrix: Water

Date Received: 12/20/23 11:35

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	20		10	8.0	3.3	ug/L		12/29/23 16:53	1
2,6-Dinitrotoluene	8.0	U	10	8.0	1.4	ug/L		12/28/23 14:33	1
4-Chloro-3-methylphenol	8.0	U	10	8.0	1.7	ug/L		12/28/23 14:33	1
4-Chloroaniline	13	U	20	13	6.3	ug/L		12/28/23 14:33	1
4-Chlorophenyl phenyl ether	8.0	U	10	8.0	1.2	ug/L		12/28/23 14:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol (Surr)	66		19 - 119	12/22/23 12:57	12/28/23 14:33	1
Phenol-d5 (Surr)	60		10 - 115	12/22/23 12:57	12/28/23 14:33	1
Nitrobenzene-d5 (Surr)	75		44 - 120	12/22/23 12:57	12/28/23 14:33	1
2-Fluorobiphenyl	53		44 - 119	12/22/23 12:57	12/28/23 14:33	1
2,4,6-Tribromophenol (Surr)	83		43 - 140	12/22/23 12:57	12/28/23 14:33	1
Terphenyl-d14 (Surr)	115		50 - 134	12/22/23 12:57	12/28/23 14:33	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	0.014	U Q	0.020	0.014	0.0037	ug/L		12/22/23 21:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	108		70 - 130	12/22/23 08:41	12/22/23 21:13	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Calcium	34000		200	64	24	ug/L		12/31/23 06:53	1
Magnesium	4700		200	15	4.2	ug/L		12/31/23 06:53	1
Potassium	2900	J	3000	940	240	ug/L		12/31/23 06:53	1
Sodium	25000		1000	320	97	ug/L		12/31/23 06:53	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	17	J	100	34	9.1	ug/L		01/04/24 22:15	1
Manganese	200		10	1.8	0.45	ug/L		01/04/24 22:15	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	1.1	J	5.0	2.0	0.50	ug/L		12/27/23 19:24	1
Lead	0.70	U	1.0	0.70	0.23	ug/L		12/27/23 19:24	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bromide (EPA 300.0)	0.40	U	0.50	0.40	0.23	mg/L		12/29/23 01:46	1
Chloride (EPA 300.0)	7.0		3.0	2.5	1.0	mg/L		12/29/23 01:46	1
Sulfate (EPA 300.0)	26		5.0	2.5	1.0	mg/L		12/29/23 01:46	1
Nitrate Nitrite as N (EPA 353.2)	0.080	U	0.10	0.080	0.044	mg/L		01/02/24 13:24	1
Alkalinity (SM 2320B)	110		10	6.4	3.1	mg/L		12/22/23 00:12	1

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Default Detection Limits

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

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

Analyte	LOQ	DL	Units
1,1,1,2-Tetrachloroethane	1.0	0.58	ug/L
1,1,1-Trichloroethane	1.0	0.39	ug/L
1,1,2,2-Tetrachloroethane	1.0	0.21	ug/L
1,1,2-Trichloro-1,2,2-trifluoroethane	3.0	0.73	ug/L
1,1,2-Trichloroethane	1.0	0.27	ug/L
1,1-Dichloroethane	1.0	0.22	ug/L
1,1-Dichloroethene	1.0	0.23	ug/L
1,1-Dichloropropene	1.0	0.42	ug/L
1,2,3-Trichlorobenzene	2.0	0.70	ug/L
1,2,3-Trichloropropane	2.5	0.86	ug/L
1,2,4-Trichlorobenzene	1.0	0.58	ug/L
1,2,4-Trimethylbenzene	1.0	0.15	ug/L
1,2-Dibromo-3-Chloropropane	5.0	1.8	ug/L
1,2-Dichlorobenzene	1.0	0.37	ug/L
1,2-Dichloroethane	1.0	0.54	ug/L
1,2-Dichloroethene, Total	1.0	0.32	ug/L
1,2-Dichloropropane	1.0	0.52	ug/L
1,3,5-Trimethylbenzene	1.0	0.37	ug/L
1,3-Dichlorobenzene	1.0	0.33	ug/L
1,3-Dichloropropane	1.0	0.38	ug/L
1,3-Dichloropropene, Total	2.0	0.63	ug/L
1,4-Dichlorobenzene	1.0	0.39	ug/L
2,2-Dichloropropane	1.0	0.38	ug/L
2-Butanone (MEK)	15	6.0	ug/L
2-Chlorotoluene	1.0	0.34	ug/L
2-Hexanone	5.0	1.7	ug/L
3-Chloro-1-propene	2.0	0.17	ug/L
4-Chlorotoluene	1.0	0.21	ug/L
4-Isopropyltoluene	1.0	0.43	ug/L
4-Methyl-2-pentanone (MIBK)	5.0	0.98	ug/L
Acetone	15	6.6	ug/L
Acrylonitrile	20	4.5	ug/L
Benzene	1.0	0.31	ug/L
Bromobenzene	1.0	0.40	ug/L
Bromoform	2.0	1.2	ug/L
Bromomethane	5.0	2.4	ug/L
Carbon disulfide	2.0	0.63	ug/L
Carbon tetrachloride	1.0	0.57	ug/L
Chlorobenzene	1.0	0.42	ug/L
Chlorobromomethane	1.0	0.40	ug/L
Chlorodibromomethane	2.0	0.62	ug/L
Chloroethane	4.0	1.4	ug/L
Chloroform	1.0	0.36	ug/L
Chloromethane	2.0	0.75	ug/L
cis-1,2-Dichloroethene	1.0	0.32	ug/L
cis-1,3-Dichloropropene	2.0	0.63	ug/L
Cyclohexane	1.0	0.44	ug/L
Dibromomethane	1.0	0.34	ug/L
Dichlorobromomethane	1.0	0.39	ug/L
Dichlorodifluoromethane	3.0	0.96	ug/L
Ethyl ether	2.0	0.35	ug/L
Ethyl methacrylate	3.0	0.86	ug/L
Ethylbenzene	1.0	0.30	ug/L

Default Detection Limits

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

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

Analyte	LOQ	DL	Units
Ethylene Dibromide	1.0	0.40	ug/L
Hexachlorobutadiene	2.0	1.2	ug/L
Hexane	2.0	0.16	ug/L
Iodomethane	5.0	2.6	ug/L
Isopropylbenzene	1.0	0.36	ug/L
Methyl acetate	5.0	1.6	ug/L
Methyl tert-butyl ether	5.0	0.25	ug/L
Methylcyclohexane	1.0	0.31	ug/L
Methylene Chloride	2.0	0.94	ug/L
m-Xylene & p-Xylene	2.0	0.36	ug/L
Naphthalene	2.0	0.63	ug/L
n-Butylbenzene	1.0	0.48	ug/L
N-Propylbenzene	1.0	0.53	ug/L
o-Xylene	1.0	0.33	ug/L
sec-Butylbenzene	1.0	0.45	ug/L
Styrene	1.0	0.36	ug/L
tert-Butylbenzene	1.0	0.42	ug/L
Tetrachloroethene	1.0	0.40	ug/L
Tetrahydrofuran	7.0	2.0	ug/L
Toluene	1.0	0.32	ug/L
Total BTEX	1.0	0.30	ug/L
trans-1,2-Dichloroethene	1.0	0.37	ug/L
trans-1,3-Dichloropropene	2.0	0.65	ug/L
trans-1,4-Dichloro-2-butene	3.0	1.4	ug/L
Trichloroethene	1.0	0.30	ug/L
Trichlorofluoromethane	2.0	0.57	ug/L
Trihalomethanes, Total	1.0	0.36	ug/L
Vinyl acetate	3.0	0.94	ug/L
Vinyl chloride	2.0	0.51	ug/L

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

Prep: 3510C

Analyte	LOQ	DL	Units
1,1'-Biphenyl	10	1.2	ug/L
2,2'-oxybis[1-chloropropane]	10	1.3	ug/L
2,4,5-Trichlorophenol	10	2.6	ug/L
2,4,6-Trichlorophenol	10	2.3	ug/L
2,4-Dichlorophenol	10	3.0	ug/L
2,4-Dimethylphenol	10	1.4	ug/L
2,4-Dinitrophenol	30	13	ug/L
2,4-Dinitrotoluene	10	1.4	ug/L
2,6-Dinitrotoluene	10	1.4	ug/L
2-Chloronaphthalene	4.0	1.3	ug/L
2-Chlorophenol	10	2.6	ug/L
2-Methylnaphthalene	4.0	1.2	ug/L
2-Methylphenol	10	0.77	ug/L
2-Nitroaniline	10	2.6	ug/L
2-Nitrophenol	10	3.5	ug/L
3,3'-Dichlorobenzidine	50	3.4	ug/L
3-Nitroaniline	10	3.3	ug/L
4,6-Dinitro-2-methylphenol	50	4.0	ug/L
4-Bromophenyl phenyl ether	10	1.0	ug/L

Default Detection Limits

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

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

Prep: 3510C

Analyte	LOQ	DL	Units
4-Chloro-3-methylphenol	10	1.7	ug/L
4-Chloroaniline	20	6.3	ug/L
4-Chlorophenyl phenyl ether	10	1.2	ug/L
4-Nitroaniline	10	2.6	ug/L
4-Nitrophenol	25	9.1	ug/L
Acenaphthene	4.0	0.96	ug/L
Acenaphthylene	4.0	0.75	ug/L
Acetophenone	10	2.3	ug/L
Anthracene	4.0	0.58	ug/L
Atrazine	10	0.65	ug/L
Benzaldehyde	5.0	1.2	ug/L
Benzo[a]anthracene	4.0	0.96	ug/L
Benzo[a]pyrene	4.0	0.50	ug/L
Benzo[b]fluoranthene	4.0	2.2	ug/L
Benzo[g,h,i]perylene	4.0	2.8	ug/L
Benzo[k]fluoranthene	4.0	1.1	ug/L
Bis(2-chloroethoxy)methane	10	2.4	ug/L
Bis(2-chloroethyl)ether	10	2.0	ug/L
Bis(2-ethylhexyl) phthalate	10	3.3	ug/L
Butyl benzyl phthalate	4.0	1.5	ug/L
Caprolactam	15	5.5	ug/L
Chrysene	4.0	0.97	ug/L
Dibenz(a,h)anthracene	10	4.8	ug/L
Dibenzofuran	4.0	0.95	ug/L
Diethyl phthalate	4.0	1.4	ug/L
Di-n-butyl phthalate	4.0	2.1	ug/L
Di-n-octyl phthalate	10	3.6	ug/L
Fluoranthene	4.0	1.1	ug/L
Fluorene	4.0	0.78	ug/L
Hexachlorobenzene	10	2.3	ug/L
Hexachlorobutadiene	10	2.9	ug/L
Hexachlorocyclopentadiene	50	16	ug/L
Hexachloroethane	10	4.5	ug/L
Indeno[1,2,3-cd]pyrene	10	3.4	ug/L
Isophorone	10	2.0	ug/L
Naphthalene	4.0	1.5	ug/L
Nitrobenzene	10	1.3	ug/L
N-Nitrosodi-n-propylamine	10	1.9	ug/L
N-Nitrosodiphenylamine	10	1.8	ug/L
Pentachlorophenol	50	20	ug/L
Phenanthrene	4.0	1.6	ug/L
Phenol	10	0.92	ug/L
Pyrene	10	2.4	ug/L

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

Prep: 8011

Analyte	LOQ	DL	Units
Ethylene Dibromide	0.020	0.0037	ug/L

Method: 6010D - Metals (ICP)

Prep: 3010A

Default Detection Limits

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Method: 6010D - Metals (ICP)

Prep: 3010A

Analyte	LOQ	DL	Units
Calcium	200	24	ug/L
Magnesium	200	4.2	ug/L
Potassium	3000	240	ug/L
Sodium	1000	97	ug/L

Method: 6010D - Metals (ICP) - Dissolved

Prep: 3005A

Analyte	LOQ	DL	Units
Iron	100	9.1	ug/L
Manganese	10	0.45	ug/L

Method: 6020B - Metals (ICP/MS)

Prep: 3020A

Analyte	LOQ	DL	Units
Arsenic	5.0	0.50	ug/L
Lead	1.0	0.23	ug/L

General Chemistry

Analyte	LOQ	DL	Units
Bromide	0.50	0.23	mg/L
Chloride	3.0	1.0	mg/L
Sulfate	5.0	1.0	mg/L
Nitrate Nitrite as N	0.10	0.044	mg/L
Alkalinity	10	3.1	mg/L

Surrogate Summary

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (81-118)	DBFM (80-119)	TOL (89-112)	BFB (85-114)
280-185943-1	WUABAFMW-01(PDB)	100	99	103	108
280-185943-2	WUABAFMW-01(BP)	98	99	101	109
280-185943-3	Equip Rinsate	97	97	103	111
LCS 280-638514/4	Lab Control Sample	94	95	102	105
LCSD 280-638514/5	Lab Control Sample Dup	94	96	103	105
MB 280-638514/9	Method Blank	97	97	103	109

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		2FP (19-119)	PHL (10-115)	NBZ (44-120)	FBP (44-119)	TBP (43-140)	TPHL (50-134)
280-185943-1	WUABAFMW-01(PDB)	47	39	57	48	61	98
280-185943-2	WUABAFMW-01(BP)	53	48	63	46	67	100
280-185943-3	Equip Rinsate	66	60	75	53	83	115
LCS 280-638265/2-A	Lab Control Sample	60	55	80	68	80	95
LCSD 280-638265/3-A	Lab Control Sample Dup	66	58	81	75	90	101
MB 280-638265/1-A	Method Blank	42	33	58	16 Q	62	100

Surrogate Legend

2FP = 2-Fluorophenol (Surr)

PHL = Phenol-d5 (Surr)

NBZ = Nitrobenzene-d5 (Surr)

FBP = 2-Fluorobiphenyl

TBP = 2,4,6-Tribromophenol (Surr)

TPHL = Terphenyl-d14 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	12DBP2
		(70-130)
280-185943-1	WUABAFMW-01(PDB)	117
280-185943-2	WUABAFMW-01(BP)	114
280-185943-3	Equip Rinsate	108
LCS 280-638238/2-A	Lab Control Sample	97
LCSD 280-638238/3-A	Lab Control Sample Dup	95
MB 280-638238/1-A	Method Blank	96

Surrogate Legend

12DBP = 1,2-Dibromopropane

QC Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

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

Lab Sample ID: MB 280-638514/9

Matrix: Water

Analysis Batch: 638514

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylbenzene	0.40	U	1.0	0.40	0.30	ug/L		12/27/23 21:38	1
Styrene	0.80	U	1.0	0.80	0.36	ug/L		12/27/23 21:38	1
cis-1,3-Dichloropropene	1.8	U	2.0	1.8	0.63	ug/L		12/27/23 21:38	1
trans-1,3-Dichloropropene	1.8	U	2.0	1.8	0.65	ug/L		12/27/23 21:38	1
N-Propylbenzene	0.80	U	1.0	0.80	0.53	ug/L		12/27/23 21:38	1
n-Butylbenzene	0.80	U	1.0	0.80	0.48	ug/L		12/27/23 21:38	1
4-Chlorotoluene	0.80	U	1.0	0.80	0.21	ug/L		12/27/23 21:38	1
1,4-Dichlorobenzene	0.50	U M	1.0	0.50	0.39	ug/L		12/27/23 21:38	1
Ethylene Dibromide	0.80	U	1.0	0.80	0.40	ug/L		12/27/23 21:38	1
3-Chloro-1-propene	0.40	U M	2.0	0.40	0.17	ug/L		12/27/23 21:38	1
1,2-Dichloroethane	0.80	U	1.0	0.80	0.54	ug/L		12/27/23 21:38	1
Acrylonitrile	8.0	U	20	8.0	4.5	ug/L		12/27/23 21:38	1
Vinyl acetate	2.0	U	3.0	2.0	0.94	ug/L		12/27/23 21:38	1
4-Methyl-2-pentanone (MIBK)	3.2	U	5.0	3.2	0.98	ug/L		12/27/23 21:38	1
1,3,5-Trimethylbenzene	0.50	U	1.0	0.50	0.37	ug/L		12/27/23 21:38	1
Bromobenzene	0.50	U	1.0	0.50	0.40	ug/L		12/27/23 21:38	1
Methylcyclohexane	0.40	U	1.0	0.40	0.31	ug/L		12/27/23 21:38	1
Toluene	0.40	U	1.0	0.40	0.32	ug/L		12/27/23 21:38	1
Chlorobenzene	0.80	U	1.0	0.80	0.42	ug/L		12/27/23 21:38	1
Tetrahydrofuran	6.4	U	7.0	6.4	2.0	ug/L		12/27/23 21:38	1
Hexane	0.80	U	2.0	0.80	0.16	ug/L		12/27/23 21:38	1
trans-1,4-Dichloro-2-butene	1.6	U	3.0	1.6	1.4	ug/L		12/27/23 21:38	1
Cyclohexane	0.80	U	1.0	0.80	0.44	ug/L		12/27/23 21:38	1
1,2,4-Trichlorobenzene	0.80	U	1.0	0.80	0.58	ug/L		12/27/23 21:38	1
Chlorodibromomethane	1.8	U	2.0	1.8	0.62	ug/L		12/27/23 21:38	1
Tetrachloroethene	0.80	U	1.0	0.80	0.40	ug/L		12/27/23 21:38	1
sec-Butylbenzene	0.80	U	1.0	0.80	0.45	ug/L		12/27/23 21:38	1
1,3-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/27/23 21:38	1
cis-1,2-Dichloroethene	0.40	U	1.0	0.40	0.32	ug/L		12/27/23 21:38	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	0.37	ug/L		12/27/23 21:38	1
Methyl tert-butyl ether	0.80	U	5.0	0.80	0.25	ug/L		12/27/23 21:38	1
m-Xylene & p-Xylene	0.80	U	2.0	0.80	0.36	ug/L		12/27/23 21:38	1
1,3-Dichlorobenzene	0.40	U	1.0	0.40	0.33	ug/L		12/27/23 21:38	1
Carbon tetrachloride	0.80	U	1.0	0.80	0.57	ug/L		12/27/23 21:38	1
1,1-Dichloropropene	0.80	U	1.0	0.80	0.42	ug/L		12/27/23 21:38	1
2-Hexanone	4.0	U	5.0	4.0	1.7	ug/L		12/27/23 21:38	1
2,2-Dichloropropane	0.80	U	1.0	0.80	0.38	ug/L		12/27/23 21:38	1
Ethyl ether	0.80	U	2.0	0.80	0.35	ug/L		12/27/23 21:38	1
1,1,1,2-Tetrachloroethane	0.80	U	1.0	0.80	0.58	ug/L		12/27/23 21:38	1
Acetone	8.0	U	15	8.0	6.6	ug/L		12/27/23 21:38	1
Chloroform	0.80	U	1.0	0.80	0.36	ug/L		12/27/23 21:38	1
Benzene	0.80	U	1.0	0.80	0.31	ug/L		12/27/23 21:38	1
1,1,1-Trichloroethane	0.50	U	1.0	0.50	0.39	ug/L		12/27/23 21:38	1
Bromomethane	4.0	U	5.0	4.0	2.4	ug/L		12/27/23 21:38	1
Chloromethane	1.0	U	2.0	1.0	0.75	ug/L		12/27/23 21:38	1
Iodomethane	4.0	U	5.0	4.0	2.6	ug/L		12/27/23 21:38	1
Dibromomethane	0.40	U	1.0	0.40	0.34	ug/L		12/27/23 21:38	1
Chlorobromomethane	0.80	U	1.0	0.80	0.40	ug/L		12/27/23 21:38	1

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QC Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

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

Lab Sample ID: MB 280-638514/9

Matrix: Water

Analysis Batch: 638514

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloroethane	1.6	U	4.0	1.6	1.4	ug/L		12/27/23 21:38	1
Vinyl chloride	1.0	U	2.0	1.0	0.51	ug/L		12/27/23 21:38	1
Methylene Chloride	1.8	U	2.0	1.8	0.94	ug/L		12/27/23 21:38	1
Carbon disulfide	0.80	U	2.0	0.80	0.63	ug/L		12/27/23 21:38	1
Bromoform	1.8	U	2.0	1.8	1.2	ug/L		12/27/23 21:38	1
Dichlorobromomethane	0.50	U	1.0	0.50	0.39	ug/L		12/27/23 21:38	1
1,1-Dichloroethane	0.80	U	1.0	0.80	0.22	ug/L		12/27/23 21:38	1
1,1-Dichloroethene	0.80	U	1.0	0.80	0.23	ug/L		12/27/23 21:38	1
Trichlorofluoromethane	0.80	U	2.0	0.80	0.57	ug/L		12/27/23 21:38	1
Dichlorodifluoromethane	2.5	U	3.0	2.5	0.96	ug/L		12/27/23 21:38	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.8	U	3.0	1.8	0.73	ug/L		12/27/23 21:38	1
1,2-Dichloropropane	0.80	U	1.0	0.80	0.52	ug/L		12/27/23 21:38	1
2-Butanone (MEK)	12	U	15	12	6.0	ug/L		12/27/23 21:38	1
1,1,2-Trichloroethane	0.80	U	1.0	0.80	0.27	ug/L		12/27/23 21:38	1
Trichloroethene	0.40	U	1.0	0.40	0.30	ug/L		12/27/23 21:38	1
Methyl acetate	4.0	U	5.0	4.0	1.6	ug/L		12/27/23 21:38	1
1,1,2,2-Tetrachloroethane	0.80	U	1.0	0.80	0.21	ug/L		12/27/23 21:38	1
1,2,3-Trichlorobenzene	0.80	U	2.0	0.80	0.70	ug/L		12/27/23 21:38	1
Hexachlorobutadiene	1.8	U	2.0	1.8	1.2	ug/L		12/27/23 21:38	1
Naphthalene	0.80	U	2.0	0.80	0.63	ug/L		12/27/23 21:38	1
o-Xylene	0.40	U	1.0	0.40	0.33	ug/L		12/27/23 21:38	1
2-Chlorotoluene	0.40	U	1.0	0.40	0.34	ug/L		12/27/23 21:38	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	0.37	ug/L		12/27/23 21:38	1
1,2,4-Trimethylbenzene	0.40	U	1.0	0.40	0.15	ug/L		12/27/23 21:38	1
1,2-Dibromo-3-Chloropropane	4.0	U	5.0	4.0	1.8	ug/L		12/27/23 21:38	1
1,2,3-Trichloropropane	1.8	U	2.5	1.8	0.86	ug/L		12/27/23 21:38	1
Ethyl methacrylate	2.0	U	3.0	2.0	0.86	ug/L		12/27/23 21:38	1
tert-Butylbenzene	0.80	U	1.0	0.80	0.42	ug/L		12/27/23 21:38	1
Isopropylbenzene	0.50	U	1.0	0.50	0.36	ug/L		12/27/23 21:38	1
4-Isopropyltoluene	0.80	U	1.0	0.80	0.43	ug/L		12/27/23 21:38	1
1,2-Dichloroethene, Total	0.40	U	1.0	0.40	0.32	ug/L		12/27/23 21:38	1
1,3-Dichloropropene, Total	0.80	U	2.0	0.80	0.63	ug/L		12/27/23 21:38	1
Trihalomethanes, Total	0.80	U	1.0	0.80	0.36	ug/L		12/27/23 21:38	1
Total BTEX	0.40	U	1.0	0.40	0.30	ug/L		12/27/23 21:38	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		81 - 118		12/27/23 21:38	1
Dibromofluoromethane (Surr)	97		80 - 119		12/27/23 21:38	1
Toluene-d8 (Surr)	103		89 - 112		12/27/23 21:38	1
4-Bromofluorobenzene (Surr)	109		85 - 114		12/27/23 21:38	1

Lab Sample ID: LCS 280-638514/4

Matrix: Water

Analysis Batch: 638514

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	50.0	48.8		ug/L		98	79 - 121
Styrene	50.0	50.7		ug/L		101	78 - 123

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QC Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

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

Lab Sample ID: LCS 280-638514/4

Matrix: Water

Analysis Batch: 638514

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,3-Dichloropropene	50.0	52.8		ug/L		106	75 - 124
trans-1,3-Dichloropropene	50.0	51.2		ug/L		102	73 - 127
N-Propylbenzene	50.0	49.8		ug/L		100	76 - 126
n-Butylbenzene	50.0	52.7		ug/L		105	75 - 128
4-Chlorotoluene	50.0	49.3		ug/L		99	78 - 122
1,4-Dichlorobenzene	50.0	46.9		ug/L		94	79 - 118
Ethylene Dibromide	50.0	48.9		ug/L		98	77 - 121
3-Chloro-1-propene	50.0	52.3		ug/L		105	68 - 130
1,2-Dichloroethane	50.0	46.6		ug/L		93	73 - 128
Acrylonitrile	500	523		ug/L		105	63 - 135
Vinyl acetate	100	115		ug/L		115	54 - 146
4-Methyl-2-pentanone (MIBK)	200	211		ug/L		106	67 - 130
1,3,5-Trimethylbenzene	50.0	51.6		ug/L		103	75 - 124
Bromobenzene	50.0	48.1		ug/L		96	80 - 120
Methylcyclohexane	50.0	53.4		ug/L		107	72 - 132
Toluene	50.0	46.4		ug/L		93	80 - 121
Chlorobenzene	50.0	46.9		ug/L		94	82 - 118
Tetrahydrofuran	100	109		ug/L		109	57 - 133
Hexane	50.0	56.4		ug/L		113	48 - 143
trans-1,4-Dichloro-2-butene	50.0	53.2		ug/L		106	43 - 140
Cyclohexane	50.0	54.0		ug/L		108	71 - 130
1,2,4-Trichlorobenzene	50.0	51.1		ug/L		102	69 - 130
Chlorodibromomethane	50.0	48.2		ug/L		96	74 - 126
Tetrachloroethene	50.0	46.4		ug/L		93	74 - 129
sec-Butylbenzene	50.0	50.0		ug/L		100	77 - 126
1,3-Dichloropropane	50.0	50.9		ug/L		102	80 - 119
cis-1,2-Dichloroethene	50.0	47.9		ug/L		96	78 - 123
trans-1,2-Dichloroethene	50.0	47.4		ug/L		95	75 - 124
Methyl tert-butyl ether	50.0	51.4		ug/L		103	71 - 124
m-Xylene & p-Xylene	50.0	50.7		ug/L		101	80 - 121
1,3-Dichlorobenzene	50.0	48.8		ug/L		98	80 - 119
Carbon tetrachloride	50.0	47.5		ug/L		95	72 - 136
1,1-Dichloropropene	50.0	48.8		ug/L		98	79 - 125
2-Hexanone	200	220		ug/L		110	57 - 139
2,2-Dichloropropane	50.0	49.5		ug/L		99	60 - 139
Ethyl ether	50.0	42.9		ug/L		86	68 - 129
1,1,1,2-Tetrachloroethane	50.0	49.9		ug/L		100	78 - 124
Acetone	200	211		ug/L		106	39 - 160
Chloroform	50.0	46.4		ug/L		93	79 - 124
Benzene	50.0	49.3		ug/L		99	79 - 120
1,1,1-Trichloroethane	50.0	46.3		ug/L		93	74 - 131
Bromomethane	50.0	42.2		ug/L		84	53 - 141
Chloromethane	50.0	46.4		ug/L		93	50 - 139
Iodomethane	50.0	48.5		ug/L		97	69 - 131
Dibromomethane	50.0	47.0		ug/L		94	79 - 123
Chlorobromomethane	50.0	45.0		ug/L		90	78 - 123
Chloroethane	50.0	41.4		ug/L		83	60 - 138
Vinyl chloride	50.0	46.4		ug/L		93	58 - 137
Methylene Chloride	50.0	50.1		ug/L		100	74 - 124

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QC Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

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

Lab Sample ID: LCS 280-638514/4

Matrix: Water

Analysis Batch: 638514

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon disulfide	50.0	48.2		ug/L		96	64 - 133
Bromoform	50.0	48.6		ug/L		97	66 - 130
Dichlorobromomethane	50.0	46.4		ug/L		93	79 - 125
1,1-Dichloroethane	50.0	51.5		ug/L		103	77 - 125
1,1-Dichloroethene	50.0	47.8		ug/L		96	71 - 131
Trichlorofluoromethane	50.0	40.4		ug/L		81	65 - 141
Dichlorodifluoromethane	50.0	41.4		ug/L		83	32 - 152
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	47.6		ug/L		95	70 - 136
1,2-Dichloropropane	50.0	51.9		ug/L		104	78 - 122
2-Butanone (MEK)	200	207		ug/L		104	56 - 143
1,1,2-Trichloroethane	50.0	47.0		ug/L		94	80 - 119
Trichloroethene	50.0	50.4		ug/L		101	79 - 123
Methyl acetate	100	102		ug/L		102	56 - 136
1,1,2,2-Tetrachloroethane	50.0	51.2		ug/L		102	71 - 121
1,2,3-Trichlorobenzene	50.0	50.8		ug/L		102	69 - 129
Hexachlorobutadiene	50.0	48.7		ug/L		97	66 - 134
Naphthalene	50.0	48.4		ug/L		97	61 - 128
o-Xylene	50.0	50.7		ug/L		101	78 - 122
2-Chlorotoluene	50.0	47.4		ug/L		95	79 - 122
1,2-Dichlorobenzene	50.0	49.8		ug/L		100	80 - 119
1,2,4-Trimethylbenzene	50.0	51.3		ug/L		103	76 - 124
1,2-Dibromo-3-Chloropropane	50.0	52.2		ug/L		104	62 - 128
1,2,3-Trichloropropane	50.0	52.4		ug/L		105	73 - 122
Ethyl methacrylate	50.0	56.8		ug/L		114	72 - 126
tert-Butylbenzene	50.0	49.0		ug/L		98	78 - 124
Isopropylbenzene	50.0	50.6		ug/L		101	72 - 131
4-Isopropyltoluene	50.0	51.0		ug/L		102	77 - 127
1,2-Dichloroethene, Total	100	95.3		ug/L		95	79 - 121
1,3-Dichloropropene, Total	100	104		ug/L		104	77 - 123
Trihalomethanes, Total	200	190		ug/L		95	66 - 130
Total BTEX	250	246		ug/L		98	78 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		81 - 118
Dibromofluoromethane (Surr)	95		80 - 119
Toluene-d8 (Surr)	102		89 - 112
4-Bromofluorobenzene (Surr)	105		85 - 114

Lab Sample ID: LCSD 280-638514/5

Matrix: Water

Analysis Batch: 638514

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
Ethylbenzene	50.0	50.5		ug/L		101	79 - 121	3	20
Styrene	50.0	53.0		ug/L		106	78 - 123	4	20
cis-1,3-Dichloropropene	50.0	55.7		ug/L		111	75 - 124	5	20
trans-1,3-Dichloropropene	50.0	52.2		ug/L		104	73 - 127	2	20
N-Propylbenzene	50.0	51.3		ug/L		103	76 - 126	3	20

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QC Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

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

Lab Sample ID: LCSD 280-638514/5

Matrix: Water

Analysis Batch: 638514

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
n-Butylbenzene	50.0	54.1		ug/L		108	75 - 128	3	20
4-Chlorotoluene	50.0	50.5		ug/L		101	78 - 122	2	20
1,4-Dichlorobenzene	50.0	47.0		ug/L		94	79 - 118	0	20
Ethylene Dibromide	50.0	51.6		ug/L		103	77 - 121	5	20
3-Chloro-1-propene	50.0	53.2		ug/L		106	68 - 130	2	20
1,2-Dichloroethane	50.0	48.1		ug/L		96	73 - 128	3	20
Acrylonitrile	500	542		ug/L		108	63 - 135	4	20
Vinyl acetate	100	119		ug/L		119	54 - 146	4	20
4-Methyl-2-pentanone (MIBK)	200	222		ug/L		111	67 - 130	5	20
1,3,5-Trimethylbenzene	50.0	53.0		ug/L		106	75 - 124	3	20
Bromobenzene	50.0	49.2		ug/L		98	80 - 120	2	20
Methylcyclohexane	50.0	56.1		ug/L		112	72 - 132	5	20
Toluene	50.0	48.1		ug/L		96	80 - 121	4	20
Chlorobenzene	50.0	48.2		ug/L		96	82 - 118	3	20
Tetrahydrofuran	100	114		ug/L		114	57 - 133	5	20
Hexane	50.0	58.8		ug/L		118	48 - 143	4	20
trans-1,4-Dichloro-2-butene	50.0	55.7		ug/L		111	43 - 140	5	20
Cyclohexane	50.0	56.4		ug/L		113	71 - 130	5	20
1,2,4-Trichlorobenzene	50.0	53.1		ug/L		106	69 - 130	4	20
Chlorodibromomethane	50.0	50.2		ug/L		100	74 - 126	4	20
Tetrachloroethene	50.0	47.9		ug/L		96	74 - 129	3	20
sec-Butylbenzene	50.0	51.8		ug/L		104	77 - 126	3	20
1,3-Dichloropropane	50.0	52.5		ug/L		105	80 - 119	3	20
cis-1,2-Dichloroethene	50.0	49.9		ug/L		100	78 - 123	4	20
trans-1,2-Dichloroethene	50.0	51.2		ug/L		102	75 - 124	8	20
Methyl tert-butyl ether	50.0	52.4		ug/L		105	71 - 124	2	20
m-Xylene & p-Xylene	50.0	52.3		ug/L		105	80 - 121	3	20
1,3-Dichlorobenzene	50.0	50.3		ug/L		101	80 - 119	3	20
Carbon tetrachloride	50.0	50.2		ug/L		100	72 - 136	6	20
1,1-Dichloropropene	50.0	51.7		ug/L		103	79 - 125	6	20
2-Hexanone	200	229		ug/L		114	57 - 139	4	20
2,2-Dichloropropane	50.0	52.1		ug/L		104	60 - 139	5	20
Ethyl ether	50.0	45.2		ug/L		90	68 - 129	5	20
1,1,1,2-Tetrachloroethane	50.0	51.6		ug/L		103	78 - 124	4	20
Acetone	200	222		ug/L		111	39 - 160	5	20
Chloroform	50.0	48.1		ug/L		96	79 - 124	3	20
Benzene	50.0	51.1		ug/L		102	79 - 120	4	20
1,1,1-Trichloroethane	50.0	49.1		ug/L		98	74 - 131	6	20
Bromomethane	50.0	43.9		ug/L		88	53 - 141	4	20
Chloromethane	50.0	48.3		ug/L		97	50 - 139	4	20
Iodomethane	50.0	50.5		ug/L		101	69 - 131	4	20
Dibromomethane	50.0	48.8		ug/L		98	79 - 123	4	20
Chlorobromomethane	50.0	46.2		ug/L		92	78 - 123	3	20
Chloroethane	50.0	44.1		ug/L		88	60 - 138	7	20
Vinyl chloride	50.0	47.6		ug/L		95	58 - 137	3	20
Methylene Chloride	50.0	52.1		ug/L		104	74 - 124	4	20
Carbon disulfide	50.0	50.3		ug/L		101	64 - 133	4	20
Bromoform	50.0	49.5		ug/L		99	66 - 130	2	20
Dichlorobromomethane	50.0	48.4		ug/L		97	79 - 125	4	20

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QC Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

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

Lab Sample ID: LCSD 280-638514/5

Matrix: Water

Analysis Batch: 638514

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-Dichloroethane	50.0	54.0		ug/L		108	77 - 125	5	20
1,1-Dichloroethene	50.0	49.7		ug/L		99	71 - 131	4	20
Trichlorofluoromethane	50.0	39.7		ug/L		79	65 - 141	2	20
Dichlorodifluoromethane	50.0	41.4		ug/L		83	32 - 152	0	20
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	50.3		ug/L		101	70 - 136	6	20
1,2-Dichloropropane	50.0	53.2		ug/L		106	78 - 122	3	20
2-Butanone (MEK)	200	215		ug/L		108	56 - 143	4	20
1,1,2-Trichloroethane	50.0	48.6		ug/L		97	80 - 119	3	20
Trichloroethene	50.0	53.5		ug/L		107	79 - 123	6	20
Methyl acetate	100	108		ug/L		108	56 - 136	6	20
1,1,2,2-Tetrachloroethane	50.0	52.0		ug/L		104	71 - 121	2	20
1,2,3-Trichlorobenzene	50.0	51.8		ug/L		104	69 - 129	2	20
Hexachlorobutadiene	50.0	49.0		ug/L		98	66 - 134	1	20
Naphthalene	50.0	49.7		ug/L		99	61 - 128	3	20
o-Xylene	50.0	52.2		ug/L		104	78 - 122	3	20
2-Chlorotoluene	50.0	49.8		ug/L		100	79 - 122	5	20
1,2-Dichlorobenzene	50.0	50.9		ug/L		102	80 - 119	2	20
1,2,4-Trimethylbenzene	50.0	52.9		ug/L		106	76 - 124	3	20
1,2-Dibromo-3-Chloropropane	50.0	54.4		ug/L		109	62 - 128	4	20
1,2,3-Trichloropropane	50.0	54.0		ug/L		108	73 - 122	3	20
Ethyl methacrylate	50.0	60.3		ug/L		121	72 - 126	6	20
tert-Butylbenzene	50.0	51.0		ug/L		102	78 - 124	4	20
Isopropylbenzene	50.0	52.6		ug/L		105	72 - 131	4	20
4-Isopropyltoluene	50.0	52.7		ug/L		105	77 - 127	3	20
1,2-Dichloroethene, Total	100	101		ug/L		101	79 - 121	6	20
1,3-Dichloropropene, Total	100	108		ug/L		108	77 - 123	4	20
Trihalomethanes, Total	200	196		ug/L		98	66 - 130	3	20
Total BTEX	250	254		ug/L		102	78 - 122	3	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		81 - 118
Dibromofluoromethane (Surr)	96		80 - 119
Toluene-d8 (Surr)	103		89 - 112
4-Bromofluorobenzene (Surr)	105		85 - 114

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

Lab Sample ID: MB 280-638265/1-A

Matrix: Water

Analysis Batch: 638621

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 638265

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,1'-Biphenyl	8.0	U	10	8.0	1.2	ug/L		12/29/23 15:45	1
2,4-Dichlorophenol	8.0	U	10	8.0	3.0	ug/L		12/29/23 15:45	1
2,4-Dimethylphenol	8.0	U	10	8.0	1.4	ug/L		12/29/23 15:45	1
2,4-Dinitrophenol	20	U	30	20	13	ug/L		12/29/23 15:45	1
2,4-Dinitrotoluene	8.0	U	10	8.0	1.4	ug/L		12/29/23 15:45	1
2,4,6-Trichlorophenol	8.0	U	10	8.0	2.3	ug/L		12/29/23 15:45	1

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QC Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

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

Lab Sample ID: MB 280-638265/1-A

Matrix: Water

Analysis Batch: 638621

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 638265

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
2,4,5-Trichlorophenol	8.0	U	10	8.0	2.6	ug/L		12/29/23 15:45	1
2,2'-oxybis[1-chloropropane]	8.0	U	10	8.0	1.3	ug/L		12/29/23 15:45	1
Di-n-butyl phthalate	3.2	U	4.0	3.2	2.1	ug/L		12/29/23 15:45	1
Di-n-octyl phthalate	8.0	U	10	8.0	3.6	ug/L		12/29/23 15:45	1
Benzo[a]anthracene	3.2	U	4.0	3.2	0.96	ug/L		12/29/23 15:45	1
Benzo[a]pyrene	3.2	U M	4.0	3.2	0.50	ug/L		12/29/23 15:45	1
Benzo[b]fluoranthene	3.2	U	4.0	3.2	2.2	ug/L		12/29/23 15:45	1
Benzo[g,h,i]perylene	3.2	U	4.0	3.2	2.8	ug/L		12/29/23 15:45	1
Benzo[k]fluoranthene	3.2	U	4.0	3.2	1.1	ug/L		12/29/23 15:45	1
Acenaphthene	3.2	U	4.0	3.2	0.96	ug/L		12/29/23 15:45	1
Acenaphthylene	3.2	U	4.0	3.2	0.75	ug/L		12/29/23 15:45	1
Acetophenone	8.0	U	10	8.0	2.3	ug/L		12/29/23 15:45	1
Anthracene	3.2	U	4.0	3.2	0.58	ug/L		12/29/23 15:45	1
Atrazine	3.2	U	10	3.2	0.65	ug/L		12/29/23 15:45	1
Benzaldehyde	3.2	U	5.0	3.2	1.2	ug/L		12/29/23 15:45	1
Butyl benzyl phthalate	3.2	U	4.0	3.2	1.5	ug/L		12/29/23 15:45	1
Caprolactam	10	U	15	10	5.5	ug/L		12/29/23 15:45	1
Chrysene	3.2	U	4.0	3.2	0.97	ug/L		12/29/23 15:45	1
Dibenz(a,h)anthracene	8.0	U	10	8.0	4.8	ug/L		12/29/23 15:45	1
Dibenzofuran	3.2	U	4.0	3.2	0.95	ug/L		12/29/23 15:45	1
Diethyl phthalate	3.2	U	4.0	3.2	1.4	ug/L		12/29/23 15:45	1
Hexachlorobenzene	8.0	U	10	8.0	2.3	ug/L		12/29/23 15:45	1
Hexachlorocyclopentadiene	48	U	50	48	16	ug/L		12/29/23 15:45	1
Hexachlorobutadiene	8.0	U	10	8.0	2.9	ug/L		12/29/23 15:45	1
Hexachloroethane	8.0	U	10	8.0	4.5	ug/L		12/29/23 15:45	1
Fluoranthene	3.2	U	4.0	3.2	1.1	ug/L		12/29/23 15:45	1
Fluorene	3.2	U	4.0	3.2	0.78	ug/L		12/29/23 15:45	1
Indeno[1,2,3-cd]pyrene	8.0	U	10	8.0	3.4	ug/L		12/29/23 15:45	1
Isophorone	8.0	U	10	8.0	2.0	ug/L		12/29/23 15:45	1
N-Nitrosodi-n-propylamine	8.0	U M	10	8.0	1.9	ug/L		12/29/23 15:45	1
N-Nitrosodiphenylamine	8.0	U M	10	8.0	1.8	ug/L		12/29/23 15:45	1
Naphthalene	3.2	U	4.0	3.2	1.5	ug/L		12/29/23 15:45	1
Nitrobenzene	8.0	U	10	8.0	1.3	ug/L		12/29/23 15:45	1
Pentachlorophenol	48	U	50	48	20	ug/L		12/29/23 15:45	1
Phenanthrene	3.2	U	4.0	3.2	1.6	ug/L		12/29/23 15:45	1
Phenol	8.0	U	10	8.0	0.92	ug/L		12/29/23 15:45	1
Pyrene	8.0	U	10	8.0	2.4	ug/L		12/29/23 15:45	1
2-Chloronaphthalene	3.2	U	4.0	3.2	1.3	ug/L		12/29/23 15:45	1
2-Chlorophenol	8.0	U	10	8.0	2.6	ug/L		12/29/23 15:45	1
2-Methylnaphthalene	3.2	U	4.0	3.2	1.2	ug/L		12/29/23 15:45	1
2-Methylphenol	8.0	U	10	8.0	0.77	ug/L		12/29/23 15:45	1
2-Nitroaniline	3.2	U	10	3.2	2.6	ug/L		12/29/23 15:45	1
2-Nitrophenol	8.0	U	10	8.0	3.5	ug/L		12/29/23 15:45	1
3,3'-Dichlorobenzidine	30	U	50	30	3.4	ug/L		12/29/23 15:45	1
3-Nitroaniline	8.0	U	10	8.0	3.3	ug/L		12/29/23 15:45	1
4,6-Dinitro-2-methylphenol	30	U	50	30	4.0	ug/L		12/29/23 15:45	1
4-Bromophenyl phenyl ether	8.0	U	10	8.0	1.0	ug/L		12/29/23 15:45	1
4-Nitroaniline	8.0	U	10	8.0	2.6	ug/L		12/29/23 15:45	1
4-Nitrophenol	13	U	25	13	9.1	ug/L		12/29/23 15:45	1

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QC Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

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

Lab Sample ID: MB 280-638265/1-A

Matrix: Water

Analysis Batch: 638621

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 638265

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bis(2-chloroethoxy)methane	8.0	U	10	8.0	2.4	ug/L		12/29/23 15:45	1
Bis(2-chloroethyl)ether	8.0	U	10	8.0	2.0	ug/L		12/29/23 15:45	1
Bis(2-ethylhexyl) phthalate	8.0	U M	10	8.0	3.3	ug/L		12/29/23 15:45	1
2,6-Dinitrotoluene	8.0	U	10	8.0	1.4	ug/L		12/29/23 15:45	1
4-Chloro-3-methylphenol	8.0	U	10	8.0	1.7	ug/L		12/29/23 15:45	1
4-Chloroaniline	13	U	20	13	6.3	ug/L		12/29/23 15:45	1
4-Chlorophenyl phenyl ether	8.0	U	10	8.0	1.2	ug/L		12/29/23 15:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol (Surr)	42		19 - 119	12/22/23 12:57	12/29/23 15:45	1
Phenol-d5 (Surr)	33		10 - 115	12/22/23 12:57	12/29/23 15:45	1
Nitrobenzene-d5 (Surr)	58		44 - 120	12/22/23 12:57	12/29/23 15:45	1
2-Fluorobiphenyl	16	Q	44 - 119	12/22/23 12:57	12/29/23 15:45	1
2,4,6-Tribromophenol (Surr)	62		43 - 140	12/22/23 12:57	12/29/23 15:45	1
Terphenyl-d14 (Surr)	100		50 - 134	12/22/23 12:57	12/29/23 15:45	1

Lab Sample ID: LCS 280-638265/2-A

Matrix: Water

Analysis Batch: 638621

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 638265

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1'-Biphenyl	80.0	50.0		ug/L		62	49 - 115
2,4-Dichlorophenol	80.0	67.1		ug/L		84	47 - 121
2,4-Dimethylphenol	80.0	69.9		ug/L		87	31 - 124
2,4-Dinitrophenol	160	81.6		ug/L		51	23 - 143
2,4-Dinitrotoluene	80.0	72.6		ug/L		91	57 - 128
2,4,6-Trichlorophenol	80.0	68.3		ug/L		85	50 - 125
2,4,5-Trichlorophenol	80.0	65.7		ug/L		82	53 - 123
2,2'-oxybis[1-chloropropane]	80.0	45.0		ug/L		56	32 - 120
Di-n-butyl phthalate	80.0	75.5		ug/L		94	59 - 127
Di-n-octyl phthalate	80.0	67.1		ug/L		84	51 - 140
Benzo[a]anthracene	80.0	79.7		ug/L		100	58 - 125
Benzo[a]pyrene	80.0	67.6		ug/L		84	54 - 128
Benzo[b]fluoranthene	80.0	76.0		ug/L		95	53 - 131
Benzo[g,h,i]perylene	80.0	76.8		ug/L		96	50 - 134
Benzo[k]fluoranthene	80.0	75.8		ug/L		95	57 - 129
Acenaphthene	80.0	61.1		ug/L		76	47 - 122
Acenaphthylene	80.0	63.6		ug/L		80	41 - 130
Acetophenone	80.0	70.1		ug/L		88	46 - 118
Anthracene	80.0	80.3		ug/L		100	57 - 123
Atrazine	80.0	87.4		ug/L		109	44 - 142
Benzaldehyde	80.0	69.6		ug/L		87	12 - 120
Butyl benzyl phthalate	80.0	75.4		ug/L		94	53 - 134
Caprolactam	80.0	33.4		ug/L		42	10 - 120
Chrysene	80.0	75.7		ug/L		95	59 - 123
Dibenz(a,h)anthracene	80.0	72.8		ug/L		91	51 - 134
Dibenzofuran	80.0	63.9		ug/L		80	53 - 118
Diethyl phthalate	80.0	76.8		ug/L		96	56 - 125

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QC Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

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

Lab Sample ID: LCS 280-638265/2-A

Matrix: Water

Analysis Batch: 638621

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 638265

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexachlorobenzene	80.0	66.7		ug/L		83	53 - 125
Hexachlorocyclopentadiene	160	29.9	J	ug/L		19	10 - 120
Hexachlorobutadiene	80.0	15.8	Q	ug/L		20	22 - 124
Hexachloroethane	80.0	17.5		ug/L		22	21 - 115
Fluoranthene	80.0	82.8		ug/L		104	57 - 128
Fluorene	80.0	70.6		ug/L		88	52 - 124
Indeno[1,2,3-cd]pyrene	80.0	78.6		ug/L		98	52 - 134
Isophorone	80.0	69.7		ug/L		87	42 - 124
N-Nitrosodi-n-propylamine	80.0	72.0		ug/L		90	49 - 119
N-Nitrosodiphenylamine	80.0	79.8		ug/L		100	51 - 123
Naphthalene	80.0	41.5		ug/L		52	40 - 121
Nitrobenzene	80.0	65.5		ug/L		82	45 - 121
Pentachlorophenol	160	108		ug/L		67	35 - 138
Phenanthrene	80.0	75.7		ug/L		95	59 - 120
Phenol	80.0	48.2		ug/L		60	28 - 120
Pyrene	80.0	75.0		ug/L		94	57 - 126
2-Chloronaphthalene	80.0	49.4		ug/L		62	40 - 116
2-Chlorophenol	80.0	65.2		ug/L		81	38 - 117
2-Methylnaphthalene	80.0	41.0		ug/L		51	40 - 121
2-Methylphenol	80.0	68.6		ug/L		86	30 - 117
2-Nitroaniline	80.0	62.4		ug/L		78	55 - 127
2-Nitrophenol	80.0	60.7		ug/L		76	47 - 123
3,3'-Dichlorobenzidine	160	167		ug/L		104	27 - 129
3-Nitroaniline	80.0	70.5		ug/L		88	41 - 128
4,6-Dinitro-2-methylphenol	160	134		ug/L		84	44 - 137
4-Bromophenyl phenyl ether	80.0	70.0		ug/L		88	55 - 124
4-Nitroaniline	80.0	79.8		ug/L		100	49 - 122
4-Nitrophenol	160	77.8		ug/L		49	31 - 120
Bis(2-chloroethoxy)methane	80.0	60.7		ug/L		76	48 - 120
Bis(2-chloroethyl)ether	80.0	63.8		ug/L		80	43 - 118
Bis(2-ethylhexyl) phthalate	80.0	76.6		ug/L		96	55 - 135
2,6-Dinitrotoluene	80.0	74.4		ug/L		93	57 - 124
4-Chloro-3-methylphenol	80.0	75.8		ug/L		95	52 - 119
4-Chloroaniline	80.0	51.6		ug/L		64	33 - 117
4-Chlorophenyl phenyl ether	80.0	63.7		ug/L		80	53 - 121

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorophenol (Surr)	60		19 - 119
Phenol-d5 (Surr)	55		10 - 115
Nitrobenzene-d5 (Surr)	80		44 - 120
2-Fluorobiphenyl	68		44 - 119
2,4,6-Tribromophenol (Surr)	80		43 - 140
Terphenyl-d14 (Surr)	95		50 - 134

QC Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

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

Lab Sample ID: LCSD 280-638265/3-A

Matrix: Water

Analysis Batch: 638558

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 638265

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1'-Biphenyl	80.0	47.9		ug/L		60	49 - 115	4	20
2,4-Dichlorophenol	80.0	70.0		ug/L		87	47 - 121	4	20
2,4-Dimethylphenol	80.0	64.8		ug/L		81	31 - 124	8	20
2,4-Dinitrophenol	160	146	Q	ug/L		91	23 - 143	57	20
2,4-Dinitrotoluene	80.0	69.1		ug/L		86	57 - 128	5	20
2,4,6-Trichlorophenol	80.0	76.3		ug/L		95	50 - 125	11	20
2,4,5-Trichlorophenol	80.0	70.0		ug/L		88	53 - 123	6	20
2,2'-oxybis[1-chloropropane]	80.0	44.7		ug/L		56	32 - 120	1	20
Di-n-butyl phthalate	80.0	70.0		ug/L		87	59 - 127	8	20
Di-n-octyl phthalate	80.0	68.4		ug/L		86	51 - 140	2	20
Benzo[a]anthracene	80.0	78.6		ug/L		98	58 - 125	1	20
Benzo[a]pyrene	80.0	66.0		ug/L		82	54 - 128	2	20
Benzo[b]fluoranthene	80.0	79.6		ug/L		100	53 - 131	5	20
Benzo[g,h,i]perylene	80.0	71.3		ug/L		89	50 - 134	7	20
Benzo[k]fluoranthene	80.0	73.3		ug/L		92	57 - 129	3	20
Acenaphthene	80.0	54.9		ug/L		69	47 - 122	11	20
Acenaphthylene	80.0	58.5		ug/L		73	41 - 130	8	20
Acetophenone	80.0	65.5		ug/L		82	46 - 118	7	20
Anthracene	80.0	72.9		ug/L		91	57 - 123	10	20
Atrazine	80.0	72.9		ug/L		91	44 - 142	18	20
Benzaldehyde	80.0	66.2		ug/L		83	12 - 120	5	50
Butyl benzyl phthalate	80.0	75.5		ug/L		94	53 - 134	0	20
Caprolactam	80.0	38.8	M	ug/L		49	10 - 120	15	20
Chrysene	80.0	71.9		ug/L		90	59 - 123	5	20
Dibenz(a,h)anthracene	80.0	74.3		ug/L		93	51 - 134	2	20
Dibenzofuran	80.0	58.9		ug/L		74	53 - 118	8	20
Diethyl phthalate	80.0	70.0		ug/L		87	56 - 125	9	20
Hexachlorobenzene	80.0	74.1		ug/L		93	53 - 125	10	20
Hexachlorocyclopentadiene	160	56.6	Q	ug/L		35	10 - 120	62	20
Hexachlorobutadiene	80.0	23.5	Q	ug/L		29	22 - 124	39	20
Hexachloroethane	80.0	22.2	Q	ug/L		28	21 - 115	24	20
Fluoranthene	80.0	71.7		ug/L		90	57 - 128	14	20
Fluorene	80.0	62.7		ug/L		78	52 - 124	12	20
Indeno[1,2,3-cd]pyrene	80.0	73.3		ug/L		92	52 - 134	7	20
Isophorone	80.0	66.6		ug/L		83	42 - 124	4	20
N-Nitrosodi-n-propylamine	80.0	65.0		ug/L		81	49 - 119	10	20
N-Nitrosodiphenylamine	80.0	75.7		ug/L		95	51 - 123	5	20
Naphthalene	80.0	42.0		ug/L		53	40 - 121	1	20
Nitrobenzene	80.0	62.6		ug/L		78	45 - 121	5	20
Pentachlorophenol	160	132		ug/L		82	35 - 138	20	20
Phenanthrene	80.0	69.8		ug/L		87	59 - 120	8	20
Phenol	80.0	43.3		ug/L		54	28 - 120	11	20
Pyrene	80.0	78.1		ug/L		98	57 - 126	4	20
2-Chloronaphthalene	80.0	49.2		ug/L		61	40 - 116	0	20
2-Chlorophenol	80.0	62.8		ug/L		79	38 - 117	4	20
2-Methylnaphthalene	80.0	40.0		ug/L		50	40 - 121	3	20
2-Methylphenol	80.0	64.8		ug/L		81	30 - 117	6	20
2-Nitroaniline	80.0	61.1		ug/L		76	55 - 127	2	20

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QC Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

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

Lab Sample ID: LCSD 280-638265/3-A

Matrix: Water

Analysis Batch: 638558

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 638265

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2-Nitrophenol	80.0	68.3		ug/L		85	47 - 123	12	20
3,3'-Dichlorobenzidine	160	168		ug/L		105	27 - 129	1	20
3-Nitroaniline	80.0	64.8		ug/L		81	41 - 128	8	20
4,6-Dinitro-2-methylphenol	160	151		ug/L		95	44 - 137	12	20
4-Bromophenyl phenyl ether	80.0	73.1		ug/L		91	55 - 124	4	20
4-Nitroaniline	80.0	67.8		ug/L		85	49 - 122	16	20
4-Nitrophenol	160	76.3		ug/L		48	31 - 120	2	20
Bis(2-chloroethoxy)methane	80.0	58.2		ug/L		73	48 - 120	4	20
Bis(2-chloroethyl)ether	80.0	59.3		ug/L		74	43 - 118	7	20
Bis(2-ethylhexyl) phthalate	80.0	64.9		ug/L		81	55 - 135	17	20
2,6-Dinitrotoluene	80.0	72.1		ug/L		90	57 - 124	3	20
4-Chloro-3-methylphenol	80.0	72.8		ug/L		91	52 - 119	4	20
4-Chloroaniline	80.0	47.5		ug/L		59	33 - 117	8	20
4-Chlorophenyl phenyl ether	80.0	62.3		ug/L		78	53 - 121	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorophenol (Surr)	66		19 - 119
Phenol-d5 (Surr)	58		10 - 115
Nitrobenzene-d5 (Surr)	81		44 - 120
2-Fluorobiphenyl	75		44 - 119
2,4,6-Tribromophenol (Surr)	90		43 - 140
Terphenyl-d14 (Surr)	101		50 - 134

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

Lab Sample ID: MB 280-638238/1-A

Matrix: Water

Analysis Batch: 638307

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 638238

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Ethylene Dibromide	0.014	U	0.020	0.014	0.0037	ug/L		12/22/23 14:49	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	96		70 - 130	12/22/23 08:41	12/22/23 14:49	1

Lab Sample ID: LCS 280-638238/2-A

Matrix: Water

Analysis Batch: 638307

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 638238

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylene Dibromide	0.250	0.247		ug/L		99	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dibromopropane	97		70 - 130

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QC Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

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

Lab Sample ID: LCSD 280-638238/3-A
Matrix: Water
Analysis Batch: 638307

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 638238

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ethylene Dibromide	0.250	0.241		ug/L		96	70 - 130	3	30
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1,2-Dibromopropane	95		70 - 130						

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 280-638599/1-A
Matrix: Water
Analysis Batch: 638831

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 638599

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Calcium	64	U	200	64	24	ug/L		12/31/23 06:05	1
Magnesium	6.94	J	200	15	4.2	ug/L		12/31/23 06:05	1
Potassium	940	U	3000	940	240	ug/L		12/31/23 06:05	1
Sodium	492	J	1000	320	97	ug/L		12/31/23 06:05	1

Lab Sample ID: LCS 280-638599/2-A
Matrix: Water
Analysis Batch: 638831

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 638599

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	50000	50900		ug/L		102	87 - 113
Magnesium	50000	51000		ug/L		102	85 - 113
Potassium	50000	50300		ug/L		101	86 - 114
Sodium	50000	47700		ug/L		95	87 - 115

Lab Sample ID: LCSD 280-638599/3-A
Matrix: Water
Analysis Batch: 638831

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 638599

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	50000	50200		ug/L		100	87 - 113	1	20
Magnesium	50000	50300		ug/L		101	85 - 113	1	20
Potassium	50000	49400		ug/L		99	86 - 114	2	20
Sodium	50000	46800		ug/L		94	87 - 115	2	20

Lab Sample ID: MB 280-638931/1-B
Matrix: Water
Analysis Batch: 639263

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 639049

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	34	U	100	34	9.1	ug/L		01/04/24 21:26	1
Manganese	1.8	U	10	1.8	0.45	ug/L		01/04/24 21:26	1

QC Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

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

Lab Sample ID: LCS 280-638931/2-B
Matrix: Water
Analysis Batch: 639263

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 639049

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	10000	9710		ug/L		97	87 - 115
Manganese	1000	961		ug/L		96	90 - 114

Lab Sample ID: 280-185943-1 MS
Matrix: Water
Analysis Batch: 639263

Client Sample ID: WUABAFMW-01(PDB)
Prep Type: Dissolved
Prep Batch: 639049

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	30	J	10000	9730		ug/L		97	87 - 115
Manganese	190		1000	1150		ug/L		96	90 - 114

Lab Sample ID: 280-185943-1 MSD
Matrix: Water
Analysis Batch: 639263

Client Sample ID: WUABAFMW-01(PDB)
Prep Type: Dissolved
Prep Batch: 639049

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	30	J	10000	9850		ug/L		98	87 - 115	1	20
Manganese	190		1000	1160		ug/L		97	90 - 114	1	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 280-638352/1-A
Matrix: Water
Analysis Batch: 638545

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 638352

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	2.0	U	5.0	2.0	0.50	ug/L		12/27/23 18:30	1
Lead	0.70	U	1.0	0.70	0.23	ug/L		12/27/23 18:30	1

Lab Sample ID: LCS 280-638352/2-A
Matrix: Water
Analysis Batch: 638545

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 638352

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	40.0	38.4		ug/L		96	84 - 116
Lead	40.0	38.4		ug/L		96	88 - 115

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 280-638577/55
Matrix: Water
Analysis Batch: 638577

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bromide	0.40	U	0.50	0.40	0.23	mg/L		12/29/23 00:50	1
Chloride	2.5	U	3.0	2.5	1.0	mg/L		12/29/23 00:50	1
Sulfate	2.5	U	5.0	2.5	1.0	mg/L		12/29/23 00:50	1

QC Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 280-638577/6

Matrix: Water

Analysis Batch: 638577

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Bromide	0.40	U	0.50	0.40	0.23	mg/L		12/28/23 11:50	1
Chloride	2.5	U	3.0	2.5	1.0	mg/L		12/28/23 11:50	1
Sulfate	2.5	U	5.0	2.5	1.0	mg/L		12/28/23 11:50	1

Lab Sample ID: LCS 280-638577/4

Matrix: Water

Analysis Batch: 638577

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	5.00	4.65		mg/L		93	90 - 110
Chloride	100	93.5		mg/L		94	90 - 110
Sulfate	100	98.1	M	mg/L		98	90 - 110

Lab Sample ID: LCS 280-638577/53

Matrix: Water

Analysis Batch: 638577

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	5.00	4.76		mg/L		95	90 - 110
Chloride	100	96.1		mg/L		96	90 - 110
Sulfate	100	101	M	mg/L		101	90 - 110

Lab Sample ID: LCSD 280-638577/5

Matrix: Water

Analysis Batch: 638577

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	5.00	4.73		mg/L		95	90 - 110	2	10
Chloride	100	94.8		mg/L		95	90 - 110	1	10
Sulfate	100	99.0	M	mg/L		99	90 - 110	1	10

Lab Sample ID: LCSD 280-638577/54

Matrix: Water

Analysis Batch: 638577

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	5.00	4.79		mg/L		96	90 - 110	1	10
Chloride	100	96.1		mg/L		96	90 - 110	0	10
Sulfate	100	101		mg/L		101	90 - 110	0	10

Lab Sample ID: MRL 280-638577/3

Matrix: Water

Analysis Batch: 638577

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	0.500	0.449	J	mg/L		90	50 - 150
Chloride	5.00	4.02		mg/L		80	50 - 150
Sulfate	5.00	4.68	J	mg/L		94	50 - 150

QC Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 280-185943-2 MS

Matrix: Water

Analysis Batch: 638577

Client Sample ID: WUABAFMW-01(BP)

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	0.40	U	5.00	5.27		mg/L		105	80 - 120
Chloride	7.2		50.0	61.1		mg/L		108	80 - 120
Sulfate	27	J1	50.0	91.7	J1	mg/L		129	80 - 120

Lab Sample ID: 280-185943-2 MSD

Matrix: Water

Analysis Batch: 638577

Client Sample ID: WUABAFMW-01(BP)

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Bromide	0.40	U	5.00	5.21		mg/L		104	80 - 120	1	20
Chloride	7.2		50.0	60.1		mg/L		106	80 - 120	2	20
Sulfate	27	J1	50.0	87.0		mg/L		120	80 - 120	5	20

Lab Sample ID: 280-185943-2 DU

Matrix: Water

Analysis Batch: 638577

Client Sample ID: WUABAFMW-01(BP)

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Bromide	0.40	U	0.40	U	mg/L		NC	15
Chloride	7.2		6.89		mg/L		4	15
Sulfate	27	J1	26.9		mg/L		0.2	15

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 280-638912/22

Matrix: Water

Analysis Batch: 638912

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	0.080	U	0.10	0.080	0.044	mg/L		01/02/24 13:13	1

Lab Sample ID: LCS 280-638912/20

Matrix: Water

Analysis Batch: 638912

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	5.00	5.25		mg/L		105	90 - 110

Lab Sample ID: LCSD 280-638912/21

Matrix: Water

Analysis Batch: 638912

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	5.00	5.00		mg/L		100	90 - 110	5	10

QC Sample Results

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-638308/58
Matrix: Water
Analysis Batch: 638308

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	3.50	J	10	6.4	3.1	mg/L		12/21/23 23:31	1

Lab Sample ID: LCS 280-638308/57
Matrix: Water
Analysis Batch: 638308

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	200	206		mg/L		103	89 - 110

QC Association Summary

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

GC/MS VOA

Analysis Batch: 638514

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185943-1	WUABAFMW-01(PDB)	Total/NA	Water	8260D	
280-185943-2	WUABAFMW-01(BP)	Total/NA	Water	8260D	
280-185943-3	Equip Rinsate	Total/NA	Water	8260D	
MB 280-638514/9	Method Blank	Total/NA	Water	8260D	
LCS 280-638514/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 280-638514/5	Lab Control Sample Dup	Total/NA	Water	8260D	

GC/MS Semi VOA

Prep Batch: 638265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185943-1	WUABAFMW-01(PDB)	Total/NA	Water	3510C	
280-185943-2	WUABAFMW-01(BP)	Total/NA	Water	3510C	
280-185943-3	Equip Rinsate	Total/NA	Water	3510C	
MB 280-638265/1-A	Method Blank	Total/NA	Water	3510C	
LCS 280-638265/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 280-638265/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 638558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185943-1	WUABAFMW-01(PDB)	Total/NA	Water	8270E	638265
280-185943-3	Equip Rinsate	Total/NA	Water	8270E	638265
LCSD 280-638265/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	638265

Analysis Batch: 638621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185943-2	WUABAFMW-01(BP)	Total/NA	Water	8270E	638265
280-185943-3	Equip Rinsate	Total/NA	Water	8270E	638265
MB 280-638265/1-A	Method Blank	Total/NA	Water	8270E	638265
LCS 280-638265/2-A	Lab Control Sample	Total/NA	Water	8270E	638265

GC Semi VOA

Prep Batch: 638238

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185943-1	WUABAFMW-01(PDB)	Total/NA	Water	8011	
280-185943-2	WUABAFMW-01(BP)	Total/NA	Water	8011	
280-185943-3	Equip Rinsate	Total/NA	Water	8011	
MB 280-638238/1-A	Method Blank	Total/NA	Water	8011	
LCS 280-638238/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 280-638238/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

Analysis Batch: 638307

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185943-1	WUABAFMW-01(PDB)	Total/NA	Water	8011	638238
280-185943-2	WUABAFMW-01(BP)	Total/NA	Water	8011	638238
280-185943-3	Equip Rinsate	Total/NA	Water	8011	638238
MB 280-638238/1-A	Method Blank	Total/NA	Water	8011	638238
LCS 280-638238/2-A	Lab Control Sample	Total/NA	Water	8011	638238
LCSD 280-638238/3-A	Lab Control Sample Dup	Total/NA	Water	8011	638238

QC Association Summary

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Metals

Prep Batch: 638352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185943-1	WUABAFMW-01(PDB)	Total/NA	Water	3020A	
280-185943-2	WUABAFMW-01(BP)	Total/NA	Water	3020A	
280-185943-3	Equip Rinsate	Total/NA	Water	3020A	
MB 280-638352/1-A	Method Blank	Total/NA	Water	3005A	
LCS 280-638352/2-A	Lab Control Sample	Total/NA	Water	3005A	

Analysis Batch: 638545

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185943-1	WUABAFMW-01(PDB)	Total/NA	Water	6020B	638352
280-185943-2	WUABAFMW-01(BP)	Total/NA	Water	6020B	638352
280-185943-3	Equip Rinsate	Total/NA	Water	6020B	638352
MB 280-638352/1-A	Method Blank	Total/NA	Water	6020B	638352
LCS 280-638352/2-A	Lab Control Sample	Total/NA	Water	6020B	638352

Prep Batch: 638599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185943-1	WUABAFMW-01(PDB)	Total/NA	Water	3010A	
280-185943-2	WUABAFMW-01(BP)	Total/NA	Water	3010A	
280-185943-3	Equip Rinsate	Total/NA	Water	3010A	
MB 280-638599/1-A	Method Blank	Total/NA	Water	3005A	
LCS 280-638599/2-A	Lab Control Sample	Total/NA	Water	3005A	
LCSD 280-638599/3-A	Lab Control Sample Dup	Total/NA	Water	3005A	

Analysis Batch: 638831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185943-1	WUABAFMW-01(PDB)	Total/NA	Water	6010D	638599
280-185943-2	WUABAFMW-01(BP)	Total/NA	Water	6010D	638599
280-185943-3	Equip Rinsate	Total/NA	Water	6010D	638599
MB 280-638599/1-A	Method Blank	Total/NA	Water	6010D	638599
LCS 280-638599/2-A	Lab Control Sample	Total/NA	Water	6010D	638599
LCSD 280-638599/3-A	Lab Control Sample Dup	Total/NA	Water	6010D	638599

Filtration Batch: 638931

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185943-1	WUABAFMW-01(PDB)	Dissolved	Water	Filtration	
280-185943-2	WUABAFMW-01(BP)	Dissolved	Water	Filtration	
280-185943-3	Equip Rinsate	Dissolved	Water	Filtration	
MB 280-638931/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 280-638931/2-B	Lab Control Sample	Dissolved	Water	Filtration	
280-185943-1 MS	WUABAFMW-01(PDB)	Dissolved	Water	Filtration	
280-185943-1 MSD	WUABAFMW-01(PDB)	Dissolved	Water	Filtration	

Prep Batch: 639049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185943-1	WUABAFMW-01(PDB)	Dissolved	Water	3005A	638931
280-185943-2	WUABAFMW-01(BP)	Dissolved	Water	3005A	638931
280-185943-3	Equip Rinsate	Dissolved	Water	3005A	638931
MB 280-638931/1-B	Method Blank	Dissolved	Water	3005A	638931
LCS 280-638931/2-B	Lab Control Sample	Dissolved	Water	3005A	638931
280-185943-1 MS	WUABAFMW-01(PDB)	Dissolved	Water	3005A	638931
280-185943-1 MSD	WUABAFMW-01(PDB)	Dissolved	Water	3005A	638931

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QC Association Summary

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Metals

Analysis Batch: 639263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185943-1	WUABAFMW-01(PDB)	Dissolved	Water	6010D	639049
280-185943-2	WUABAFMW-01(BP)	Dissolved	Water	6010D	639049
280-185943-3	Equip Rinsate	Dissolved	Water	6010D	639049
MB 280-638931/1-B	Method Blank	Dissolved	Water	6010D	639049
LCS 280-638931/2-B	Lab Control Sample	Dissolved	Water	6010D	639049
280-185943-1 MS	WUABAFMW-01(PDB)	Dissolved	Water	6010D	639049
280-185943-1 MSD	WUABAFMW-01(PDB)	Dissolved	Water	6010D	639049

General Chemistry

Analysis Batch: 638308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185943-1	WUABAFMW-01(PDB)	Total/NA	Water	SM 2320B	
280-185943-2	WUABAFMW-01(BP)	Total/NA	Water	SM 2320B	
280-185943-3	Equip Rinsate	Total/NA	Water	SM 2320B	
MB 280-638308/58	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-638308/57	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 638577

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185943-1	WUABAFMW-01(PDB)	Total/NA	Water	300.0	
280-185943-2	WUABAFMW-01(BP)	Total/NA	Water	300.0	
280-185943-3	Equip Rinsate	Total/NA	Water	300.0	
MB 280-638577/55	Method Blank	Total/NA	Water	300.0	
MB 280-638577/6	Method Blank	Total/NA	Water	300.0	
LCS 280-638577/4	Lab Control Sample	Total/NA	Water	300.0	
LCS 280-638577/53	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-638577/5	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 280-638577/54	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-638577/3	Lab Control Sample	Total/NA	Water	300.0	
280-185943-2 MS	WUABAFMW-01(BP)	Total/NA	Water	300.0	
280-185943-2 MSD	WUABAFMW-01(BP)	Total/NA	Water	300.0	
280-185943-2 DU	WUABAFMW-01(BP)	Total/NA	Water	300.0	

Analysis Batch: 638912

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-185943-1	WUABAFMW-01(PDB)	Total/NA	Water	353.2	
280-185943-2	WUABAFMW-01(BP)	Total/NA	Water	353.2	
280-185943-3	Equip Rinsate	Total/NA	Water	353.2	
MB 280-638912/22	Method Blank	Total/NA	Water	353.2	
LCS 280-638912/20	Lab Control Sample	Total/NA	Water	353.2	
LCSD 280-638912/21	Lab Control Sample Dup	Total/NA	Water	353.2	

Lab Chronicle

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Client Sample ID: WUABAFMW-01(PDB)

Lab Sample ID: 280-185943-1

Date Collected: 12/18/23 09:18

Matrix: Water

Date Received: 12/20/23 11:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	638514	12/28/23 03:22	BMJ	EET DEN
Total/NA	Prep	3510C			125 mL	1 mL	638265	12/22/23 12:57	CAR	EET DEN
Total/NA	Analysis	8270E		1	1 mL	1 mL	638558	12/28/23 13:48	MAB	EET DEN
Total/NA	Prep	8011			34.7 mL	35 mL	638238	12/22/23 08:41	MJL	EET DEN
Total/NA	Analysis	8011		1	35 mL	35 mL	638307	12/22/23 19:51	MJL	EET DEN
Dissolved	Filtration	Filtration			50 mL	50 mL	638931	01/02/24 18:48	CAF	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	639049	01/04/24 09:00	AES	EET DEN
Dissolved	Analysis	6010D		1			639263	01/04/24 21:34	ADL	EET DEN
Total/NA	Prep	3010A			50 mL	50 mL	638599	12/28/23 15:26	MSM	EET DEN
Total/NA	Analysis	6010D		1			638831	12/31/23 06:44	BN	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	638352	12/27/23 08:44	MSM	EET DEN
Total/NA	Analysis	6020B		1			638545	12/27/23 19:19	LMT	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	638577	12/29/23 00:16	EJS	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	638912	01/02/24 13:22	BCR	EET DEN
Total/NA	Analysis	SM 2320B		1			638308	12/22/23 00:00	LL	EET DEN

Client Sample ID: WUABAFMW-01(BP)

Lab Sample ID: 280-185943-2

Date Collected: 12/18/23 14:30

Matrix: Water

Date Received: 12/20/23 11:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	638514	12/28/23 03:45	BMJ	EET DEN
Total/NA	Prep	3510C			125 mL	1 mL	638265	12/22/23 12:57	CAR	EET DEN
Total/NA	Analysis	8270E		1	1 mL	1 mL	638621	12/29/23 16:30	MAB	EET DEN
Total/NA	Prep	8011			35.1 mL	35 mL	638238	12/22/23 08:41	MJL	EET DEN
Total/NA	Analysis	8011		1	35 mL	35 mL	638307	12/22/23 20:19	MJL	EET DEN
Dissolved	Filtration	Filtration			50 mL	50 mL	638931	01/02/24 18:48	CAF	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	639049	01/04/24 09:00	AES	EET DEN
Dissolved	Analysis	6010D		1			639263	01/04/24 22:10	ADL	EET DEN
Total/NA	Prep	3010A			50 mL	50 mL	638599	12/28/23 15:26	MSM	EET DEN
Total/NA	Analysis	6010D		1			638831	12/31/23 06:49	BN	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	638352	12/27/23 08:44	MSM	EET DEN
Total/NA	Analysis	6020B		1			638545	12/27/23 19:22	LMT	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	638577	12/29/23 01:01	EJS	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	638912	01/02/24 13:23	BCR	EET DEN
Total/NA	Analysis	SM 2320B		1			638308	12/22/23 00:06	LL	EET DEN

Client Sample ID: Equip Rinsate

Lab Sample ID: 280-185943-3

Date Collected: 12/18/23 15:25

Matrix: Water

Date Received: 12/20/23 11:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	638514	12/28/23 01:05	BMJ	EET DEN

Eurofins Denver

Lab Chronicle

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Client Sample ID: Equip Rinsate

Lab Sample ID: 280-185943-3

Date Collected: 12/18/23 15:25

Matrix: Water

Date Received: 12/20/23 11:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			125 mL	1 mL	638265	12/22/23 12:57	CAR	EET DEN
Total/NA	Analysis	8270E		1	1 mL	1 mL	638558	12/28/23 14:33	MAB	EET DEN
Total/NA	Prep	3510C			125 mL	1 mL	638265	12/22/23 12:57	CAR	EET DEN
Total/NA	Analysis	8270E		1	1 mL	1 mL	638621	12/29/23 16:53	MAB	EET DEN
Total/NA	Prep	8011			35 mL	35 mL	638238	12/22/23 08:41	MJL	EET DEN
Total/NA	Analysis	8011		1	35 mL	35 mL	638307	12/22/23 21:13	MJL	EET DEN
Dissolved	Filtration	Filtration			50 mL	50 mL	638931	01/02/24 18:48	CAF	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	639049	01/04/24 09:00	AES	EET DEN
Dissolved	Analysis	6010D		1			639263	01/04/24 22:15	ADL	EET DEN
Total/NA	Prep	3010A			50 mL	50 mL	638599	12/28/23 15:26	MSM	EET DEN
Total/NA	Analysis	6010D		1			638831	12/31/23 06:53	BN	EET DEN
Total/NA	Prep	3020A			50 mL	50 mL	638352	12/27/23 08:44	MSM	EET DEN
Total/NA	Analysis	6020B		1			638545	12/27/23 19:24	LMT	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	638577	12/29/23 01:46	EJS	EET DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	638912	01/02/24 13:24	BCR	EET DEN
Total/NA	Analysis	SM 2320B		1			638308	12/22/23 00:12	LL	EET DEN

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Laboratory: Eurofins Denver

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	2907.01	10-31-24

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
8260D		Water	Trihalomethanes, Total

Method Summary

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds (GC/MS)	SW846	EET DEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET DEN
8011	EDB, DBCP, and 1,2,3-TCP (GC)	SW846	EET DEN
6010D	Metals (ICP)	SW846	EET DEN
6020B	Metals (ICP/MS)	SW846	EET DEN
300.0	Anions, Ion Chromatography	EPA	EET DEN
353.2	Nitrogen, Nitrate-Nitrite	EPA	EET DEN
SM 2320B	Alkalinity	SM	EET DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET DEN
3010A	Preparation, Total Metals	SW846	EET DEN
3020A	Preparation, Total Metals	SW846	EET DEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET DEN
5030B	Purge and Trap	SW846	EET DEN
8011	Microextraction	SW846	EET DEN
Filtration	Sample Filtration	None	EET DEN

Protocol References:

EPA = US Environmental Protection Agency

None = None

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:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: John Shomaker and Associates Inc
Project/Site: Water Authority Data Gap Well Monitoring

Job ID: 280-185943-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-185943-1	WUABAFMW-01(PDB)	Water	12/18/23 09:18	12/20/23 11:35
280-185943-2	WUABAFMW-01(BP)	Water	12/18/23 14:30	12/20/23 11:35
280-185943-3	Equip Rinsate	Water	12/18/23 15:25	12/20/23 11:35