Arkema Quarter 4, 2023, Groundwater Monitoring Report

Arkema Inc. Facility, Portland, Oregon

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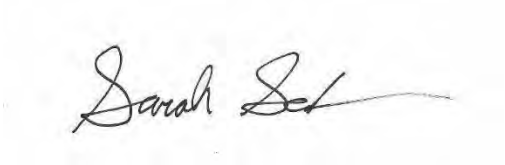

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ACRONYMS AND ABBREVIATIONS

Acronyms	Description
µg/L	micrograms per liter
Arkema	Arkema Inc.
cis-1,2-DCE	cis-1,2-dichloroethene
COC	contaminant of concern
ERM	Environmental Resources Management, Inc.
GEE	Groundwater Extraction Enhancement
GMWP	Groundwater Monitoring Work Plan
GWBW	groundwater barrier wall
GWET	groundwater extraction and treatment
GW SCM	groundwater source control measures
LSS	Legacy Site Services, LLC
ODEQ	Oregon Department of Environmental Quality
PCE	tetrachloroethene
QA/QC	quality assurance / quality control
QAPP	quality Assurance Project Plan
Report	Quarter 4, 2023, Groundwater Monitoring Report
SEE	System Effectiveness Evaluation
Site	Former Arkema Portland Plant at 6400 NW Front Avenue, Portland, Oregon

1. INTRODUCTION

Environmental Resources Management, Inc. (ERM) has prepared this *Arkema Quarter 4, 2023, Groundwater Monitoring Report* (Report) for the Arkema Inc. Facility (the Site) on behalf of Legacy Site Services, LLC (LSS), agent for Arkema Inc. (Arkema). The Site is located at 6400 NW Front Avenue in the Northwest Industrial Area of Portland, Oregon, and is bounded by Front Avenue on the north and west, the Willamette River on the east, and an asphalt roofing manufacturer on the south. The Site lies on the southwest bank of the lower Willamette River between river mile 6.9 and river mile 7.6, immediately upstream of the Burlington Northern Santa Fe Railroad Bridge and is adjacent to the Portland Harbor Superfund site.

The Site's operational and remedial history was documented in the *Revised Upland Feasibility Study Work Plan* (ERM 2017). This Report provides the field procedures, groundwater level data, and analytical results for the Quarter 4, 2023, groundwater monitoring at the former Arkema Portland Plant at 6400 NW Front Avenue, Portland, Oregon.

The objective of this groundwater monitoring program is to evaluate the performance of the groundwater source control measure (GW SCM). The GW SCM consists of the groundwater barrier wall (GWBW) and the groundwater extraction and treatment system (GWET). The objective of the GW SCM is to achieve hydraulic containment of the alluvial sequence within the Target Capture Zone at the Site to prevent the flow of contaminants of concern (COCs) to the Willamette River. The GW SCM is described in further detail in the *Revised Final Performance Monitoring Plan—Groundwater Source Control Measure* (ERM 2015). In 2022, the GWET system was upgraded by installing 14 additional extraction wells referred to as the Groundwater Extraction Enhancement (GEE). The GEE is described in further detail in the Final Design Report (ERM 2022).

In their 31 May 2019 review of the *Draft GWET System Effectiveness Evaluation* [SEE] *Report* (ODEQ 2019), the ODEQ requested the development of an analytical monitoring program for groundwater COCs. Subsequent to that letter, LSS, ERM, and the ODEQ held a meeting on 2 July 2019, during which ERM and LSS agreed to commence groundwater monitoring. Starting in October 2019 through April 2021, groundwater monitoring was conducted in accordance with the ODEQ-approved *Arkema Quarterly Groundwater Monitoring Work Plan* (GMWP), dated October 2019 (ERM 2019). This groundwater monitoring scope consisted of a sitewide assessment of groundwater COCs.

Following the ODEQ review of the *2021 GWET SEE Report* (ODEQ 2021; ERM 2021), ERM, on behalf of LSS, requested a reduced monitoring scope in a memorandum dated 9 September 2021. The ODEQ approved the reduced monitoring scope on 14 September 2021. The objective of the reduced monitoring scope of work is to evaluate the potential for the following COCs to migrate around or below the GWBW:

- Volatile organic compounds (VOCs)
- Perchlorate
- Chloride

The reduced monitoring scope includes 29 well locations in the Shallow, Intermediate, and Deep hydrogeological zones. On 24 February 2023, following implementation of the GEE, LSS, ERM, and ODEQ held a meeting during which the parties agreed to continue with the reduced monitoring program, and incorporate piezometer PA-18d into the program. Collectively, the GMWP as amended by the conversations with ODEQ discussed above is referred to as the Approved Groundwater Monitoring Program in this report. ERM conducts groundwater monitoring events on a quarterly basis and assesses historical and current groundwater analytical trends in the area of the GWBW on an annual basis. The annual assessment is included in the Annual SEE Report.

2. FIELD PROCEDURES

ERM collected groundwater elevation data from 128 well locations on 8 December 2023 and groundwater samples from 30 well locations between 10 December and 13 December 2023. The locations of all monitoring wells and piezometers are presented on Figure 1. A summary of groundwater level and sampling locations and analyses are displayed in Table 1.

ERM performed field sampling in accordance with the procedures outlined in the GMWP and addenda. These procedures cover well purging, field parameter collection, analytical requirements, and quality assurance / quality control (QA/QC) protocols.

Groundwater monitoring fieldwork included collecting groundwater level measurements, water quality parameters, and groundwater samples for laboratory analysis.

2.1 GROUNDWATER LEVEL MEASUREMENTS

As shown in Table 1, ERM collected groundwater elevation data on 8 December 2023 from 128 well locations using a combination of transducer and manual measurements. Manual measurements were measured to the nearest 0.01 foot using a water level indicator in accordance with the GMWP. For locations with functioning transducers, transducer data were used for reporting in lieu of collecting manual measurements.

2.2 GROUNDWATER SAMPLE COLLECTION PROCEDURES

ERM collected groundwater samples from 30 well locations in accordance with the Approved Groundwater Monitoring Program. The monitoring well network includes eight monitoring wells and 22 piezometers (Table 1). Sample collection procedures pertaining to the 30 well locations under ERM's monitoring program are included below.

All wells and piezometers were sampled with a bladder or peristaltic pump using low-flow techniques and sample collection procedures as described in the GMWP. Field water quality measurements (i.e., temperature, pH, specific conductivity, dissolved oxygen, oxygen-reduction potential) were collected with calibrated field water quality meters. Turbidity was collected utilizing three-way valves and Hach turbidimeters. ERM recorded field notes taken during sampling in field logs; field forms are provided as Appendix A.

After well-purging criteria were satisfied, ERM disconnected the in-line flow cell and collected groundwater samples in the appropriate containers for the analyses as shown in Table 1. For VOCs, low level analyses were performed if historical results were non-detected by standard methods.

After sampling, ERM removed the pump and associated tubing from the well, discarded disposable tubing, and decontaminated reusable equipment as described in the GMWP.

2.3 SAMPLE SHIPPING AND INVESTIGATION-DERIVED WASTE

After sample collection, ERM labeled samples with the required data and entered the data into the chain-of-custody record to facilitate proper tracking and control. Samples were delivered under chain-of-custody to the Eurofins Beaverton Service Center and then shipped to their respective Eurofins laboratory in sealed containers, accompanied by the chain-of-custody record.

Investigation-derived waste generated during the groundwater monitoring included groundwater purged from monitoring wells, personal protective equipment, and disposable sampling equipment. Decontamination fluids and purge water were contained in 5-gallon buckets and then processed in the GWET system. Disposable sampling equipment and used personal protective equipment were disposed of as non-hazardous solid waste.

2.4 QUALITY ASSURANCE AND QUALITY CONTROL AND DATA VALIDATION

As described in the GMWP, the analyses were performed in accordance with the Quality Assurance Project Plan (QAPP) and the 2009 and 2011 QAPP addenda, as described in the GMWP.

ERM collected field QA/QC samples in accordance with the QAPP and associated addenda (listed below). QA/QC samples—including trip blanks, field duplicates, and rinsate samples—were collected, controlled, and shipped in the same manner as normal field samples.

- Trip blanks were included in each cooler that contained VOC samples.
- Field duplicate samples were collected for every 20 samples.
- Rinsate blank samples were collected for every 20 samples to verify efficacy of sampling equipment decontamination.

ERM completed data validation after receiving the laboratory analytical reports. Appendix B includes laboratory analytical reports and Appendix C includes data validation memos. QA/QC sample results were reviewed during data validation and additional details are included in the data validation memos (Appendix C). Based on the results of the data validation, qualifiers were assigned to the data, and it was determined that the qualified data are acceptable for decision making and meet the overall objectives of the monitoring program. There were no deviations to the scope of work of the Approved Groundwater Monitoring Program during the Quarter 4, 2023, groundwater sampling event.

3. GROUNDWATER MONITORING RESULTS

3.1 GROUNDWATER ELEVATIONS

On 8 December 2023, ERM manually measured depth to groundwater to the nearest 0.01 foot in 58 wells at the Site using an electronic water level indicator. For the additional 70 wells with functioning transducers, ERM collected transducer groundwater elevation data on 8 December 2023. ERM averaged transducer data recorded in the respective Shallow Zone, Intermediate Zone, and Deep Zone aquifer wells during the time period that manual water level measurements were collected to estimate groundwater elevations. Table 2 presents groundwater elevation data for all 128 well locations and the time period used for averaging transducer groundwater elevation data. These data were used to develop potentiometric surface maps for the Shallow, Intermediate, and Deep hydrogeological zones. These maps are presented on Figures 2 through 4, respectively.

The generalized flow direction indicated by the potentiometric surface maps show overall groundwater flow toward the GWBW. A potentiometric separation is noticeable exterior to the GWBW, indicating the GWBW is functioning by impeding groundwater flow. River elevations from the Willamette River (river mile 12.8) gauge are shown on the potentiometric surface maps in an inset (Figures 2 through 4) and depict stage movement during December 2023.

3.2 GROUNDWATER SAMPLING RESULTS

ERM personnel completed groundwater sampling between 10 and 13 December 2023 at 30 monitoring well and piezometer locations, in accordance with the Approved Groundwater Monitoring Program. Results from the groundwater sampling and analyses of the well locations included in ERM's monitoring program are presented in further detail below.

3.2.1 FIELD PARAMETER RESULTS

ERM measured and recorded field parameters during well purging. Table 3 presents the results of the field parameter measurements.

Five monitoring locations did not stabilize for turbidity during the Quarter 4, 2023, groundwater monitoring event. Given the nature of analytes included in the monitoring program scope and the stabilization of other indicator parameters (dissolved oxygen, oxidation-reduction potential, specific conductance, and pH) consistent with ASTM International Standard D6771 (2018) as well as temperature, the unstable turbidity did not affect the quality of the data.

3.2.2 ANALYTICAL RESULTS

Tables 4 and 5 present the analytical results for VOCs, and perchlorate and chloride, respectively, from the Quarter 4, 2023, groundwater monitoring event. Appendix B presents laboratory analytical reports. Appendix D includes previous groundwater monitoring data, beginning in October 2019, from well locations associated with the Approved Groundwater Monitoring Program. Appendix E includes historical groundwater data associated with the Site prior to implementation of the groundwater monitoring program in October 2019.

3.2.2.1 VOCS

The results for chlorobenzene in the Shallow, Intermediate, and Deep Zones are presented on Figures 5 through 7, respectively. Chlorobenzene was detected in 6 out of 30 samples. The highest detected concentration of chlorobenzene was 22,000 micrograms per liter (µg/L) at Deep Zone piezometer PA 30d.

The results for 1,2-dichlorobenzene in the Shallow, Intermediate, and Deep Zones are presented on Figures 8 through 10, respectively. 1,2-Dichlorobenzene was detected in 3 out of 30 samples. The highest detected concentration of 1,2-dichlorobenzene was 0.22 µg/L at Intermediate Zone piezometer PA-10i.

The results for tetrachloroethene (PCE), trichloroethene (TCE), and their de-chlorination daughter-products cis-1,2-dichloroethene (cis-1,2-DCE) and vinyl chloride, in the Shallow, Intermediate, and Deep Zones, are presented on Figures 11 through 13, respectively:

- PCE was detected in 4 out of 30 samples. The highest detected concentration of PCE was 24 µg/L at Shallow Zone monitoring well MWA-63.
- TCE was detected in 3 out of 30 samples. The highest detected concentration of TCE was 4.1 µg/L at Shallow Zone monitoring well MWA-63.
- cis-1,2-DCE was detected in 7 out of 30 samples. The highest detected concentration of cis-1,2-DCE was 4.8 µg/L at Shallow Zone monitoring well MWA-63.
- Vinyl chloride was detected in 2 out of 30 samples. The highest detected concentration of vinyl chloride was 0.25 µg/L at Intermediate Zone piezometer PA-10i.

3.2.2.2 PERCHLORATE

Perchlorate results for the Shallow, Intermediate, and Deep Zones are presented in Figures 14 through 16, respectively. Perchlorate was detected in 4 out of 30 samples. The highest detected concentration of perchlorate was 50,000 µg/L at Deep Zone monitoring well MWA-58d.

3.2.2.3 CHLORIDE

Chloride results for the Shallow, Intermediate, and Deep Zones are presented on Figures 17 through 19, respectively. Chloride was detected in 30 out of 30 samples. The highest detected concentration of chloride was 31,000 milligrams per liter at Deep Zone piezometer PA-24d.

4. RECOMMENDATIONS

Following the Quarter 4, 2023, groundwater monitoring event, no changes are recommended to the GMWP at this time.

ERM will conduct the Quarter 1, 2024, groundwater monitoring event according to the following schedule:

- Water levels will be measured on 23 February 2024.
- Sampling will begin 26 February 2024 and is expected to be completed over a 1-week period.
- Receipt of analytical results is anticipated to be completed over a period of 5 weeks from the completion of the sampling event (April 2024).

The Quarter 1, 2024, Groundwater Monitoring Report will be submitted to the ODEQ within 60 days after data validation (June 2024).

5. REFERENCES

ERM (ERM-West, Inc.). 2015. *Revised Final Performance Monitoring Plan—Groundwater Source Control Measure*. Arkema Inc. Facility, Portland, Oregon. July 2015.

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ERM. 2021. *GWET System Effectiveness Evaluation*. Arkema Inc. Facility, Portland, Oregon. April 2021.

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ODEQ (Oregon Department of Environmental Quality). 2019. *Draft GWET System Effectiveness Evaluation Report*. DEQ Review.

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TABLES

Table 1
Groundwater Sampling Matrix
Arkema Quarter 4, 2023, Groundwater Monitoring Report
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		Analyte	Volatile Organic Compounds	Volatile Organic Compounds	Chloride	Perchlorate	
		Analytical Method	8260C	8260C_LL [a]	300	314	
Location ID	Aquifer Classification	Level Measurement					Comments
MWA-02	Shallow	X*	--	--	--	--	
MWA-15r	Shallow	X	--	--	--	--	
MWA-18	Shallow	X	--	--	--	--	
MWA-19	Shallow	X*	--	--	--	--	
MWA-20	Shallow	X	--	--	--	--	
MWA-22	Shallow	X	--	--	--	--	
MWA-24	Shallow	X	--	--	--	--	
MWA-29	Shallow	X	--	--	--	--	
MWA-33	Shallow	X	--	--	--	--	
MWA-40	Shallow	X	--	--	--	--	
MWA-41	Shallow	X	--	X	X	X	
MWA-42	Shallow	X	--	--	--	--	
MWA-43	Shallow	X	--	--	--	--	
MWA-46	Shallow	X	--	--	--	--	
MWA-47	Shallow	X*	--	--	--	--	
MWA-61	Shallow	X	--	--	--	--	
MWA-63	Shallow	X	X	--	X	X	
MWA-69	Shallow	X*	--	--	--	--	
MWA-71	Shallow	X	--	--	--	--	
MWA-72	Shallow	X	--	--	--	--	
MWA-73	Shallow	X	--	--	--	--	
MWA-82	Shallow	X	--	X	X	X	
PA-03	Shallow	X*	--	X	X	X	
PA-04	Shallow	X*	--	X	X	X	
PA-05	Shallow	X*	--	--	--	--	
PA-06	Shallow	X*	--	--	--	--	
PA-07	Shallow	X*	--	--	--	--	
PA-08	Shallow	X*	--	X	X	X	
PA-09	Shallow	X*	--	X	X	X	
PA-28	Shallow	X*	--	--	--	--	
PA-31	Shallow	X	--	X	X	X	
PA-33	Shallow	X	--	--	--	--	
PA-35	Shallow	X	--	--	--	--	
PA-36	Shallow	X	--	--	--	--	
PA-38	Shallow	X	--	--	--	--	
PA-41	Shallow	X	--	--	--	--	
PA-42	Shallow	X	--	--	--	--	
PA-43	Shallow	X	--	--	--	--	
RP-02-31	Shallow	X	--	--	--	--	
RP-10-30	Shallow	X	--	--	--	--	
RW-05	Shallow	X*	--	--	--	--	
RW-07	Shallow	X*	--	--	--	--	

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		Analyte	Volatile Organic Compounds	Volatile Organic Compounds	Chloride	Perchlorate	
		Analytical Method	8260C	8260C_LL [a]	300	314	
Location ID	Aquifer Classification	Level Measurement					Comments
RW-08	Shallow	X*	--	--	--	--	
RW-10	Shallow	X*	--	--	--	--	
RW-12	Shallow	X*	--	--	--	--	
RW-14	Shallow	X*	--	--	--	--	
RW-15	Shallow	X*	--	--	--	--	
RW-17	Shallow	X*	--	--	--	--	
RW-18	Shallow	X*	--	--	--	--	
RW-20	Shallow	X*	--	--	--	--	
RW-22	Shallow	X*	--	--	--	--	
RW-23	Shallow	X	--	--	--	--	
RW-25	Shallow	X*	--	--	--	--	
EW-1	Shallow/Intermediate	X*	--	--	--	--	
EW-2	Shallow/Intermediate	X*	--	--	--	--	
EW-3	Shallow/Intermediate	X*	--	--	--	--	
EW-4	Shallow/Intermediate	X*	--	--	--	--	
EW-5	Shallow/Intermediate	X*	--	--	--	--	
EW-6	Shallow/Intermediate	X*	--	--	--	--	
EW-7	Shallow/Intermediate	X*	--	--	--	--	
EW-8	Shallow/Intermediate	X*	--	--	--	--	
EW-9	Shallow/Intermediate	X*	--	--	--	--	
EW-10	Shallow/Intermediate	X*	--	--	--	--	
EW-11	Shallow/Intermediate	X*	--	--	--	--	
EW-12	Shallow/Intermediate	X*	--	--	--	--	
EW-13	Shallow/Intermediate	X*	--	--	--	--	
EW-14	Shallow/Intermediate	X*	--	--	--	--	
MWA-83	Shallow/Intermediate	X	--	--	--	--	
MWA-84	Shallow/Intermediate	X	--	--	--	--	
MWA-85	Shallow/Intermediate	X	--	--	--	--	
MWA-86	Shallow/Intermediate	X	--	--	--	--	
MWA-87	Shallow/Intermediate	X	--	--	--	--	
MWA-88	Shallow/Intermediate	X	--	--	--	--	
MWA-89	Shallow/Intermediate	X	--	--	--	--	
MWA-07(i)	Intermediate	X	--	--	--	--	

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		Analytical Method	8260C	8260C_LL [a]	300	314	
Location ID	Aquifer Classification	Level Measurement					Comments
MWA-08i	Intermediate	X*	--	--	--	--	
MWA-16i	Intermediate	X	--	--	--	--	
MWA-34i	Intermediate	X*	--	--	--	--	
MWA-49i	Intermediate	X	--	--	--	--	
MWA-53i	Intermediate	X	--	--	--	--	
MWA-54i	Intermediate	X	--	--	--	--	
MWA-66i	Intermediate	X*	--	--	--	--	
MWA-70i	Intermediate	X	--	--	--	--	
MWA-74i	Intermediate	X	--	--	--	--	
MWA-75i	Intermediate	X	--	--	--	--	
MWA-81i	Intermediate	X	--	X	X	X	
PA-10i	Intermediate	X*	--	X	X	X	
PA-11i	Intermediate	X	--	--	--	--	
PA-12i	Intermediate	X*	--	--	--	--	
PA-13i	Intermediate	X*	--	--	--	--	
PA-14i	Intermediate	X*	--	--	--	--	
PA-15i	Intermediate	X*	--	X	X	X	
PA-16i	Intermediate	X*	--	X	X	X	
PA-17iR	Intermediate	X*	--	X	X	X	
PA-29i	Intermediate	X*	--	--	--	--	
PA-32i	Intermediate	X	--	X	X	X	
PA-34i	Intermediate	X	--	--	--	--	
PA-37i	Intermediate	X	--	--	--	--	
PA-39i	Intermediate	X	--	--	--	--	
PA-40i	Intermediate	X	--	--	--	--	
PA-44i	Intermediate	X	--	X	X	X	
RW-06i	Intermediate	X*	--	--	--	--	
RW-09i	Intermediate	X*	--	--	--	--	
RW-11i	Intermediate	X*	--	--	--	--	
RW-13i	Intermediate	X*	--	--	--	--	
RW-16i	Intermediate	X*	--	--	--	--	
RW-19i	Intermediate	X*	--	--	--	--	
RW-21i	Intermediate	X*	--	--	--	--	
RW-24i	Intermediate	X*	--	--	--	--	
RW-26i	Intermediate	X*	--	--	--	--	
MWA-11i(d)	Deep	X	--	X	X	X	
MWA-12i(d)	Deep	X	--	--	--	--	
MWA-31i(d)	Deep	X	X	--	X	X	
MWA-56d	Deep	X	X	--	X	X	
MWA-58d	Deep	X*	X	--	X	X	
PA-18d	Deep	X*	X	--	X	X	
PA-19d	Deep	X*	X	--	X	X	

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		Analytical Method	8260C	8260C_LL [a]	300	314	
Location ID	Aquifer Classification	Level Measurement					Comments
PA-20d	Deep	X*	X	--	X	X	
PA-21d	Deep	X*	X	--	X	X	
PA-22d	Deep	X*	X	--	X	X	
PA-23d	Deep	X*	X	--	X	X	
PA-24d	Deep	X	X	--	X	X	
PA-25d	Deep	X*	--	X	X	X	
PA-26d	Deep	X*	--	X	X	X	
PA-27d	Deep	X*	X	--	X	X	
PA-30d	Deep	X*	X	--	X	X	
MWA-76g	Gravel	X	--	--	--	--	
MWA-77g	Gravel	X	--	--	--	--	

Notes:
[a] low level test
* = indicates locations where groundwater level measured with transducer

Table 2
Groundwater Elevation Results
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Arkema Inc. Facility
Portland, Oregon

Well ID	Date	Time	Aquifer Unit	Top of Casing Elevation (ft NAVD88)	Depth to Water (ft)	Groundwater Elevation (ft NAVD88)
MWA-02*	12/8/2023	*	Shallow	36.20	--	11.32
MWA-15r	12/8/2023	8:52:00 AM	Shallow	36.06	26.69	9.37
MWA-18	12/8/2023	9:42:00 AM	Shallow	39.43	28.35	11.08
MWA-19*	12/8/2023	*	Shallow	38.26	--	11.18
MWA-20	12/8/2023	9:17:00 AM	Shallow	40.95	29.05	11.90
MWA-22	12/8/2023	11:21:00 AM	Shallow	36.59	22.81	13.78
MWA-24	12/8/2023	10:55:00 AM	Shallow	37.58	23.73	13.85
MWA-29	12/8/2023	9:47:00 AM	Shallow	44.42	33.23	11.19
MWA-33	12/8/2023	10:50:00 AM	Shallow	37.26	17.50	19.76
MWA-40	12/8/2023	10:53:00 AM	Shallow	36.96	17.75	19.21
MWA-41	12/8/2023	10:25:00 AM	Shallow	45.14	32.75	12.39
MWA-42	12/8/2023	9:13:00 AM	Shallow	37.24	26.38	10.86
MWA-43	12/8/2023	10:07:00 AM	Shallow	44.53	33.08	11.45
MWA-46	12/8/2023	9:40:00 AM	Shallow	36.67	25.45	11.22
MWA-47*	12/8/2023	*	Shallow	39.02	--	11.44
MWA-61	12/8/2023	8:42:00 AM	Shallow	36.21	25.25	10.96
MWA-63	12/8/2023	8:00:00 AM	Shallow	36.29	24.04	12.25
MWA-69*	12/8/2023	*	Shallow	33.73	--	9.99
MWA-71	12/8/2023	7:45:00 AM	Shallow	34.82	2.85	31.97
MWA-72	12/8/2023	11:10:00 AM	Shallow	34.16	1.86	32.30
MWA-73	12/8/2023	11:03:00 AM	Shallow	36.01	3.99	32.02
MWA-82	12/8/2023	10:30:00 AM	Shallow	37.74	24.85	12.89
PA-03*	12/8/2023	*	Shallow	37.10	--	30.49
PA-04*	12/8/2023	*	Shallow	36.67	--	31.02
PA-05*	12/8/2023	*	Shallow	37.22	--	6.93
PA-06*	12/8/2023	*	Shallow	38.03	--	9.86
PA-07*	12/8/2023	*	Shallow	39.30	--	12.65
PA-08*	12/8/2023	*	Shallow	40.47	--	14.52
PA-09*	12/8/2023	*	Shallow	40.24	--	13.10
PA-28*	12/8/2023	*	Shallow	38.58	--	12.46
PA-31	12/8/2023	8:07:00 AM	Shallow	36.25	5.70	30.55
PA-33	12/8/2023	8:10:00 AM	Shallow	36.29	20.17	16.12
PA-35	12/8/2023	8:15:00 AM	Shallow	35.91	27.24	8.67
PA-36	12/8/2023	8:31:00 AM	Shallow	36.90	30.82	6.08
PA-38	12/8/2023	10:01:00 AM	Shallow	42.93	30.50	12.43
PA-41	12/8/2023	9:51:00 AM	Shallow	39.69	28.25	11.44
PA-42	12/8/2023	9:58:00 AM	Shallow	40.60	28.70	11.90
PA-43	12/8/2023	10:22:00 AM	Shallow	40.41	28.00	12.41
RP-02-31	12/8/2023	7:16:00 AM	Shallow	42.49	30.38	12.11
RP-10-30	12/8/2023	7:28:00 AM	Shallow	37.47	6.80	30.67
RW-05*	12/8/2023	*	Shallow	34.80	--	26.99
RW-07*	12/8/2023	*	Shallow	33.98	--	6.81
RW-08*	12/8/2023	*	Shallow	34.21	--	7.65
RW-10*	12/8/2023	*	Shallow	34.33	--	12.07
RW-12*	12/8/2023	*	Shallow	35.58	--	10.39
RW-14*	12/8/2023	*	Shallow	36.08	--	8.46
RW-15*	12/8/2023	*	Shallow	35.81	--	12.29
RW-17*	12/8/2023	*	Shallow	36.55	--	11.88
RW-18*	12/8/2023	*	Shallow	36.51	--	12.54
RW-20*	12/8/2023	*	Shallow	37.07	--	12.41
RW-22*	12/8/2023	*	Shallow	38.02	--	9.53
RW-23**	12/8/2023	8:38:00 AM	Shallow	33.63	27.00	6.63
RW-25*	12/8/2023	*	Shallow	38.06	--	8.20

Table 2
Groundwater Elevation Results
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Arkema Inc. Facility
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Well ID	Date	Time	Aquifer Unit	Top of Casing Elevation (ft NAVD88)	Depth to Water (ft)	Groundwater Elevation (ft NAVD88)
EW-1*	12/8/2023	*	Shallow/Intermediat	33.84	--	10.98
EW-2*	12/8/2023	*	Shallow/Intermediat	34.20	--	9.19
EW-3*	12/8/2023	*	Shallow/Intermediat	34.43	--	3.61
EW-4*	12/8/2023	*	Shallow/Intermediat	34.61	--	3.30
EW-5*	12/8/2023	*	Shallow/Intermediat	35.03	--	3.41
EW-6*	12/8/2023	*	Shallow/Intermediat	35.43	--	3.58
EW-7*	12/8/2023	*	Shallow/Intermediat	35.24	--	0.99
EW-8*	12/8/2023	*	Shallow/Intermediat	35.07	--	1.36
EW-9*	12/8/2023	*	Shallow/Intermediat	36.77	--	-4.44
EW-10*	12/8/2023	*	Shallow/Intermediat	36.35	--	-4.50
EW-11*	12/8/2023	*	Shallow/Intermediat	37.38	--	-2.00
EW-12*	12/8/2023	*	Shallow/Intermediat	38.24	--	-1.87
EW-13*	12/8/2023	*	Shallow/Intermediat	39.79	--	4.88
EW-14*	12/8/2023	*	Shallow/Intermediat	40.03	--	5.03
MWA-83	12/8/2023	8:24:00 AM	Shallow/Intermediat	35.82	26.78	9.04
MWA-84	12/8/2023	8:28:00 AM	Shallow/Intermediat	36.31	32.03	4.28
MWA-85	12/8/2023	9:00:00 AM	Shallow/Intermediat	36.86	30.78	6.08
MWA-86	12/8/2023	9:10:00 AM	Shallow/Intermediat	37.15	Dry	Dry
MWA-87	12/8/2023	9:20:00 AM	Shallow/Intermediat	37.68	32.49	5.18
MWA-88	12/8/2023	9:44:00 AM	Shallow/Intermediat	39.36	39.50	-0.14
MWA-89	12/8/2023	10:15:00 AM	Shallow/Intermediat	41.65	34.55	7.10
MWA-07(i)	12/8/2023	11:04:00 AM	Intermediate	36.24	8.48	27.76
MWA-08i*	12/8/2023	*	Intermediate	36.25	--	11.46
MWA-16i	12/8/2023	9:05:00 AM	Intermediate	36.58	25.90	10.68
MWA-34i*	12/8/2023	*	Intermediate	38.02	--	19.33
MWA-49i	12/8/2023	9:38:00 AM	Intermediate	36.68	25.48	11.20
MWA-53i	12/8/2023	9:46:00 AM	Intermediate	44.63	33.69	10.94
MWA-54i	12/8/2023	9:14:00 AM	Intermediate	37.35	26.07	11.28
MWA-66i*	12/8/2023	*	Intermediate	33.35	--	10.41
MWA-70i	12/8/2023	10:48:00 AM	Intermediate	37.62	22.05	15.57
MWA-74i	12/8/2023	7:58:00 AM	Intermediate	34.72	10.04	24.68
MWA-75i	12/8/2023	11:09:00 AM	Intermediate	34.09	4.40	29.69
MWA-81i	12/8/2023	10:27:00 AM	Intermediate	44.62	33.08	11.54
PA-10i*	12/8/2023	*	Intermediate	36.67	--	13.05
PA-11i**	12/8/2023	8:41:00 AM	Intermediate	37.63	27.35	10.28
PA-12i*	12/8/2023	*	Intermediate	38.03	--	9.99
PA-13i*	12/8/2023	*	Intermediate	38.48	--	12.01
PA-14i*	12/8/2023	*	Intermediate	39.30	--	11.95
PA-15i*	12/8/2023	*	Intermediate	40.62	--	11.69
PA-16i*	12/8/2023	*	Intermediate	40.30	--	12.05
PA-17iR*	12/8/2023	*	Intermediate	37.59	--	12.60
PA-29i*	12/8/2023	*	Intermediate	39.18	--	11.59
PA-32i	12/8/2023	8:06:00 AM	Intermediate	36.28	23.79	12.49
PA-34i	12/8/2023	8:13:00 AM	Intermediate	36.02	23.65	12.37
PA-37i	12/8/2023	8:33:00 AM	Intermediate	36.54	28.25	8.29
PA-39i	12/8/2023	21:54:00 PM	Intermediate	40.11	28.82	11.29
PA-40i	12/8/2023	9:56:00 AM	Intermediate	41.47	30.15	11.32
PA-44i	12/8/2023	10:18:00 AM	Intermediate	40.36	28.96	11.40
RW-06i*	12/8/2023	*	Intermediate	35.59	--	11.84
RW-09i*	12/8/2023	*	Intermediate	33.73	--	9.83
RW-11i*	12/8/2023	*	Intermediate	34.77	--	9.85
RW-13i*	12/8/2023	*	Intermediate	36.09	--	20.35
RW-16i*	12/8/2023	*	Intermediate	35.77	--	11.49

Table 2
Groundwater Elevation Results
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Well ID	Date	Time	Aquifer Unit	Top of Casing Elevation (ft NAVD88)	Depth to Water (ft)	Groundwater Elevation (ft NAVD88)
RW-19i*	12/8/2023	*	Intermediate	36.56	--	10.42
RW-21i*	12/8/2023	*	Intermediate	37.38	--	11.73
RW-24i*	12/8/2023	*	Intermediate	34.03	--	11.24
RW-26i*	12/8/2023	*	Intermediate	38.10	--	11.64
MWA-11i(d)	12/8/2023	8:56:00 AM	Deep	36.49	25.40	11.09
MWA-12i(d)	12/8/2023	11:05:00 AM	Deep	35.86	11.15	24.71
MWA-31i(d)	12/8/2023	11:16:00 AM	Deep	38.36	28.00	10.36
MWA-56d	12/8/2023	9:36:00 AM	Deep	36.68	25.90	10.78
MWA-58d*	12/8/2023	*	Deep	37.97	--	10.76
PA-18d*	12/8/2023	*	Deep	36.55	--	12.14
PA-19d*	12/8/2023	*	Deep	36.65	--	11.29
PA-20d*	12/8/2023	*	Deep	37.91	--	10.90
PA-21d*	12/8/2023	*	Deep	34.36	--	11.16
PA-22d*	12/8/2023	*	Deep	38.75	--	11.82
PA-23d*	12/8/2023	*	Deep	39.31	--	11.91
PA-24d*	12/8/2023	*	Deep	39.06	--	10.86
PA-25d*	12/8/2023	*	Deep	40.44	--	13.74
PA-26d*	12/8/2023	*	Deep	40.33	--	13.22
PA-27d*	12/8/2023	*	Deep	37.10	--	12.07
PA-30d*	12/8/2023	*	Deep	37.34	--	10.98
MWA-76g	12/8/2023	13:13:00 PM	Gravel	34.96	10.71	24.25
MWA-77g	12/8/2023	7:45:00 AM	Gravel	34.03	19.68	14.35

Notes:
* = wells with transducers; transducer data were used to obtain groundwater elevation
** = wells with malfunctioning or down transducers, water levels collected manually
ft = feet
NAVD 88 = North American Vertical Datum 1988
Manual measurement data collected in field with tablet.
Transducer data was averaged between 7:16 AM and 9:56 PM for the groundwater elevation value.

Table 3
Field Parameters Measured in Groundwater
Arkema Quarter 4, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

			Analyte	pH	Temperature	Specific Conductivity	Oxidation-Reduction Potential	Dissolved Oxygen	Turbidity
			Method	Field Measure	Field Measure	Field Measure	Field Measure	Field Measure	Field Measure
			Unit	SU	deg C	uS/cm	mV	mg/L	NTU
Location ID	Sample Date	Aquifer Classification	Sample ID						
MWA-41	12/10/2023	Shallow	MWA-41-121023	6.69	13.8	316.2	35.1	0.8	8.51
MWA-63	12/12/2023	Shallow	MWA-63-121223	7.11	14.2	598	40.1	6.03	4.61
MWA-82	12/10/2023	Shallow	MWA-82-121023	9.2	14.1	530	5.7	0.77	14.78
PA-03	12/11/2023	Shallow	PA-03-121123	10.44	15.1	801	-235.3	0.27	44.35
PA-04	12/12/2023	Shallow	PA-04-121223	9.87	13.1	749	-126.3	0.34	33.42
PA-08	12/11/2023	Shallow	PA-08-121123	7.3	12.6	187.5	44.3	1.92	23.14
PA-09	12/11/2023	Shallow	PA-09-121123	6.87	14.5	276.9	100.5	1.24	5.96
PA-31	12/12/2023	Shallow	PA-31-121223	9.5	15.4	771	-61.2	0.37	55.48
MWA-81i	12/10/2023	Intermediate	MWA-81i-121023	6.55	14.3	598	34.5	0.78	4.13
PA-10i	12/12/2023	Intermediate	PA-10i-121223	7.55	14.4	915	-185.7	0.19	7.33
PA-15i	12/11/2023	Intermediate	PA-15i-121123	7.53	13.7	174.5	17.9	6.01	73.84
PA-16i	12/11/2023	Intermediate	PA-16i-121123	6.98	14.4	147.7	91.3	0.42	78.5
PA-17iR	12/11/2023	Intermediate	PA-17iR-121123	9.25	14.1	558	-239.5	0.2	7.19
PA-32i	12/13/2023	Intermediate	PA-32i-121323	7.29	13.5	489	-108	0.27	11.93
PA-44i	12/10/2023	Intermediate	PA-44i-121023	9.8	14.7	171.4	-22.8	6.95	13.63
MWA-11i(d)	12/13/2023	Deep	MWA-11i(d)-12132	6.77	11.9	2859	-121.5	0.65	3.7
MWA-31i(d)	12/11/2023	Deep	MWA-31i(d)-12112	6.73	17.1	46318	20.1	0.7	3.05
MWA-56d	12/12/2023	Deep	MWA-56d-121223	6.57	13.4	39445	90	0.48	2.65
MWA-58d	12/12/2023	Deep	MWA-58d-121223	6.62	12.8	51210	87.9	0.52	3.61
PA-18d	12/12/2023	Deep	PA-18d-121223	8.84	13.7	1133	-186	0.18	33.91
PA-19d	12/13/2023	Deep	PA-19d-121323	7.12	12.9	3037	-52.2	1.75	5.06
PA-20d	12/12/2023	Deep	PA-20d-121223	6.61	13.9	3940	-46.3	2.64	3.97
PA-21d	12/12/2023	Deep	PA-21d-121223	6.19	16.1	3669	-23.9	1.61	4.94
PA-22d	12/12/2023	Deep	PA-22d-121223	7.13	13	16191	56.2	0.94	3.36
PA-23d	12/11/2023	Deep	PA-23d-121123	6.99	12.3	73458	-82.3	2.05	6.15
PA-24d	12/11/2023	Deep	PA-24d-121123	6.61	14.3	74384	-76.4	1.11	5.16
PA-25d	12/11/2023	Deep	PA-25d-121123	7.03	13.1	391.4	-35.2	5.94	38.65
PA-26d	12/11/2023	Deep	PA-26d-121123	6.84	13.9	329.9	-81.3	0.4	3.32
PA-27d	12/12/2023	Deep	PA-27d-121223	7.21	11.1	2382	-149.3	0.4	11.19
PA-30d	12/13/2023	Deep	PA-30d-121323	8.09	13.4	3394	-79.1	0.58	14.29

Notes:
uS/cm = microSiemens per centimeter
deg C = degrees Celsius
mg/L = milligrams per liter
mV = millivolts
NTU = nephelometric turbidity units
SU = standard units

Table 4
Volatile Organic Compounds Results
Arkema Quarter 4, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

				Analyte	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene
				Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
				FSWP SHSC (shaded values indicate results above the value shown)	NE	11	0.4	1.6	47	710	NE	NE	NE	0.076
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID										
MWA-41	12/10/2023	N	Shallow	MWA-41-121023	< 0.038 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.025 U	< 0.035 U	< 0.084 U	< 0.15 U	< 0.050 U	< 0.17 U
MWA-63	12/12/2023	N	Shallow	MWA-63-121223	< 0.18 U	< 0.39 U	< 0.52 U	**0.27 j**	**0.40 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U
MWA-82	12/10/2023	N	Shallow	MWA-82-121023	< 0.038 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.071 j**	< 0.035 U	< 0.084 U	< 0.15 U	< 0.050 U	< 0.17 U
PA-03	12/11/2023	N	Shallow	PA-03-121123	< 0.038 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.11 j**	< 0.035 U	< 0.084 U	< 0.15 U	< 0.050 U	< 0.17 U
PA-04	12/12/2023	N	Shallow	PA-04-121223	< 0.038 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.22**	**0.21**	< 0.084 U	< 0.15 U	< 0.050 U	< 0.17 U
PA-08	12/11/2023	N	Shallow	PA-08-121123	< 0.038 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.025 U	< 0.035 U	< 0.084 U	< 0.15 U	< 0.050 U	< 0.17 U
PA-09	12/11/2023	N	Shallow	PA-09-121123	< 0.038 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.047 j**	< 0.035 U	< 0.084 U	< 0.15 U	< 0.050 U	< 0.17 U
PA-31	12/12/2023	N	Shallow	PA-31-121223	< 0.038 U	**0.22 J+**	< 0.056 U	< 0.070 U	**0.21 J+**	**0.80**	< 0.084 U	< 0.15 U	< 0.050 U	< 0.17 U
MWA-81i	12/10/2023	N	Intermediate	MWA-81I-121023	< 0.038 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.092 j**	< 0.035 U	< 0.084 U	< 0.15 U	< 0.050 U	< 0.17 U
PA-10i	12/12/2023	N	Intermediate	PA-10I-121223	< 0.038 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.025 U	**0.10 j**	< 0.084 U	< 0.15 U	< 0.050 U	< 0.17 U
PA-15i	12/11/2023	N	Intermediate	PA-15I-121123	< 0.038 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.025 U	< 0.035 U	< 0.084 U	< 0.15 U	< 0.050 U	< 0.17 U
PA-16i	12/11/2023	N	Intermediate	PA-16I-121123	< 0.038 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.025 U	< 0.035 U	< 0.084 U	< 0.15 U	< 0.050 U	< 0.17 U
PA-17iR	12/11/2023	N	Intermediate	PA-17IR-121123	< 0.038 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.065 j**	**0.17 j**	< 0.084 U	< 0.15 U	< 0.050 U	< 0.17 U
PA-32i	12/13/2023	N	Intermediate	PA-32I-121323	< 0.038 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.025 U	< 0.035 U	< 0.084 U	< 0.15 U	< 0.050 U	< 0.17 U
PA-32i	12/13/2023	FD	Intermediate	DUP-02-121323	< 0.038 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.025 U	< 0.035 U	< 0.084 U	< 0.15 U	< 0.050 U	< 0.17 U
PA-44i	12/10/2023	N	Intermediate	PA-44I-121023	< 0.038 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.025 U	< 0.035 U	< 0.084 U	< 0.15 U	< 0.050 U	< 0.17 U
MWA-11i(d)	12/13/2023	N	Deep	MWA-11I(D)-121323	< 0.038 U	< 0.025 U	< 0.056 U	< 0.070 U	**0.029 j**	< 0.035 U	< 0.084 U	< 0.15 U	< 0.050 U	< 0.17 U
MWA-31i(d)	12/11/2023	N	Deep	MWA-31I(D)-121123	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.31 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U
MWA-56d	12/12/2023	N	Deep	MWA-56D-121223	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 2.9 U	< 4.3 U	< 4.1 U	< 3.3 U
MWA-56d	12/12/2023	FD	Deep	DUP-01-121223	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U
MWA-58d	12/12/2023	N	Deep	MWA-58D-121223	< 0.90 U	< 2.0 U	< 2.6 U	< 1.2 U	< 1.1 U	< 1.4 U	< 1.5 U	< 2.2 U	< 2.1 U	< 1.7 U
PA-18d	12/12/2023	N	Deep	PA-18D-121223	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U
PA-19d	12/13/2023	N	Deep	PA-19D-121323	< 36 U	< 78 U	< 100 U	< 48 U	< 44 U	< 56 U	< 58 U	< 86 U	< 82 U	< 66 U
PA-20d	12/12/2023	N	Deep	PA-20D-121223	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**2.8**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U
PA-21d	12/12/2023	N	Deep	PA-21D-121223	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 150 U	< 220 U	< 210 U	< 170 U
PA-22d	12/12/2023	N	Deep	PA-22D-121223	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U
PA-23d	12/11/2023	N	Deep	PA-23D-121123	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U
PA-24d	12/11/2023	N	Deep	PA-24D-121123	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U
PA-25d	12/11/2023	N	Deep	PA-25D-121123	< 0.038 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.025 U	< 0.035 U	< 0.084 U	< 0.15 U	< 0.050 U	< 0.17 U
PA-26d	12/11/2023	N	Deep	PA-26D-121123	< 0.038 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.025 U	< 0.035 U	< 0.084 U	< 0.15 U	< 0.050 U	< 0.17 U
PA-27d	12/12/2023	N	Deep	PA-27D-121223	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	**0.25 j**	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U
PA-30d	12/13/2023	N	Deep	PA-30D-121323	< 36 U	< 78 U	< 100 U	< 48 U	< 44 U	< 56 U	< 58 U	< 86 U	< 82 U	< 66 U

Notes:
Bolded values indicate concentrations above the Method Detection Limit.
Shaded values indicate concentrations above the FSWP SHSC.
< = Compound not detected. Method Detection Limit shown.
µg/L = micrograms per liter
FD = Field Duplicate Sample
FSWP SHSC = Feasibility Study Work Plan Indirect Exposure Pathway Selected Hot Spot Criteria
N = Normal Environmental Sample
NE = Not Established
SW8260C analyses performed by TestAmerica - Seattle, WA of Seattle.

Qualifiers - Organic:
j = The analyte was positively identified below the RDL; associated numerical value is the approximate concentration of the analyte in the sample.
J- = The concentration of the sample is considered to be biased low, as the associated QC results are outside the lower control limits.
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U = Analyte was analyzed for, but not detected above, the limit displayed.
UJ = Analyte was analyzed for, but not detected. The detection limit is a quantitative estimate.

Table 4
Volatile Organic Compounds Results
Arkema Quarter 4, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane
Analyte					1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate results above the value shown)					NE	NE	14	3.7	1.5	NE	10	NE	15	NE
MWA-41	12/10/2023	N	Shallow	MWA-41-121023	< 0.20 U	< 0.17 U	< 0.038 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U	< 0.060 U
MWA-63	12/12/2023	N	Shallow	MWA-63-121223	< 0.61 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U
MWA-82	12/10/2023	N	Shallow	MWA-82-121023	< 0.20 U	< 0.17 U	**0.052 j**	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U	< 0.060 U
PA-03	12/11/2023	N	Shallow	PA-03-121123	< 0.20 U	< 0.17 U	< 0.038 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U	< 0.060 U
PA-04	12/12/2023	N	Shallow	PA-04-121223	< 0.20 U	< 0.17 U	< 0.038 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U	< 0.060 U
PA-08	12/11/2023	N	Shallow	PA-08-121123	< 0.20 U	< 0.17 U	< 0.038 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U	< 0.060 U
PA-09	12/11/2023	N	Shallow	PA-09-121123	< 0.20 U	< 0.17 U	< 0.038 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U	< 0.060 U
PA-31	12/12/2023	N	Shallow	PA-31-121223	< 0.20 U	< 0.17 U	< 0.038 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U	< 0.060 U
MWA-81i	12/10/2023	N	Intermediate	MWA-81I-121023	< 0.20 U	< 0.17 U	< 0.038 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U	< 0.060 U
PA-10i	12/12/2023	N	Intermediate	PA-10I-121223	< 0.20 U	< 0.17 U	**0.22 j**	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U	< 0.060 U
PA-15i	12/11/2023	N	Intermediate	PA-15I-121123	< 0.20 U	< 0.17 U	< 0.038 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U	< 0.060 U
PA-16i	12/11/2023	N	Intermediate	PA-16I-121123	< 0.20 U	< 0.17 U	< 0.038 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U	< 0.060 U
PA-17iR	12/11/2023	N	Intermediate	PA-17IR-121123	< 0.20 U	< 0.17 U	< 0.038 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U	< 0.060 U
PA-32i	12/13/2023	N	Intermediate	PA-32I-121323	< 0.20 U	< 0.17 U	**0.12 j**	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U	< 0.060 U
PA-32i	12/13/2023	FD	Intermediate	DUP-02-121323	< 0.20 U	< 0.17 U	**0.13 j**	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U	< 0.060 U
PA-44i	12/10/2023	N	Intermediate	PA-44I-121023	< 0.20 U	< 0.17 U	< 0.038 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U	< 0.060 U
MWA-11i(d)	12/13/2023	N	Deep	MWA-11I(D)-121323	< 0.20 U	< 0.17 U	< 0.038 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U	< 0.060 U
MWA-31i(d)	12/11/2023	N	Deep	MWA-31I(D)-121123	< 0.61 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 UJ	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U
MWA-56d	12/12/2023	N	Deep	MWA-56D-121223	< 6.1 U	< 5.7 U	< 4.6 U	< 4.2 U	< 1.8 U	< 5.5 U	< 4.8 U	< 3.5 U	< 4.6 U	< 3.2 U
MWA-56d	12/12/2023	FD	Deep	DUP-01-121223	< 0.61 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U
MWA-58d	12/12/2023	N	Deep	MWA-58D-121223	< 3.1 U	< 2.9 U	< 2.3 U	< 2.1 U	< 0.90 U	< 2.8 U	< 2.4 U	< 1.8 U	< 2.3 U	< 1.6 U
PA-18d	12/12/2023	N	Deep	PA-18D-121223	< 0.61 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U
PA-19d	12/13/2023	N	Deep	PA-19D-121323	< 120 U	< 110 U	< 92 U	< 84 U	< 36 U	< 110 U	< 96 U	< 70 U	< 92 U	< 64 U
PA-20d	12/12/2023	N	Deep	PA-20D-121223	< 0.61 U	< 0.57 U	< 0.46 U	**0.63 j**	< 0.18 U	< 0.55 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U
PA-21d	12/12/2023	N	Deep	PA-21D-121223	< 310 U	< 290 U	< 230 U	< 210 U	< 90 U	< 280 U	< 240 U	< 180 U	< 230 U	< 160 U
PA-22d	12/12/2023	N	Deep	PA-22D-121223	< 0.61 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U
PA-23d	12/11/2023	N	Deep	PA-23D-121123	< 0.61 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U
PA-24d	12/11/2023	N	Deep	PA-24D-121123	< 0.61 U	< 0.57 U	< 0.46 U	**1.1**	< 0.18 U	< 0.55 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U
PA-25d	12/11/2023	N	Deep	PA-25D-121123	< 0.20 U	< 0.17 U	< 0.038 U	< 0.043 U	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U	< 0.060 U
PA-26d	12/11/2023	N	Deep	PA-26D-121123	< 0.20 U	< 0.17 U	< 0.038 U	**0.047 j**	< 0.060 U	< 0.15 U	< 0.050 U	< 0.025 U	< 0.050 U	< 0.060 U
PA-27d	12/12/2023	N	Deep	PA-27D-121223	< 0.61 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U
PA-30d	12/13/2023	N	Deep	PA-30D-121323	< 120 U	< 110 U	< 92 U	< 84 U	< 36 U	< 110 U	< 96 U	< 70 U	< 92 U	< 64 U

Notes:
Bolded values indicate concentrations above the Method Detection Limit.
Shaded values indicate concentrations above the FSWP SHSC.
< = Compound not detected. Method Detection Limit shown.
µg/L = micrograms per liter
FD = Field Duplicate Sample
FSWP SHSC = Feasibility Study Work Plan Indirect Exposure Pathway Selected Hot Spot Criteria
N = Normal Environmental Sample
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SW8260C analyses performed by TestAmerica - Seattle, WA of Seattle.

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Table 4
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Arkema Quarter 4, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID	2-Butanone (Methyl ethyl ketone)	4-Chlorotoluene	4-Isopropyltoluene	4-Methyl-2-pentanone	Acetone	Benzene	Bromobenzene	Bromodichloromethane	Bromoform	Bromomethane
Analyte														
Unit					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FSWP SHSC (shaded values indicate results above the value shown)					14000	NE	NE	NE	1500	1.4	NE	1.7	14	150
MWA-41	12/10/2023	N	Shallow	MWA-41-121023	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
MWA-63	12/12/2023	N	Shallow	MWA-63-121223	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	**0.58 j**	< 0.51 U	< 0.21 U
MWA-82	12/10/2023	N	Shallow	MWA-82-121023	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	**0.074 j**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-03	12/11/2023	N	Shallow	PA-03-121123	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	**0.061 j**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-04	12/12/2023	N	Shallow	PA-04-121223	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-08	12/11/2023	N	Shallow	PA-08-121123	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-09	12/11/2023	N	Shallow	PA-09-121123	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-31	12/12/2023	N	Shallow	PA-31-121223	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
MWA-81i	12/10/2023	N	Intermediate	MWA-81I-121023	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-10i	12/12/2023	N	Intermediate	PA-10I-121223	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	**0.051 j**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-15i	12/11/2023	N	Intermediate	PA-15I-121123	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-16i	12/11/2023	N	Intermediate	PA-16I-121123	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-17iR	12/11/2023	N	Intermediate	PA-17IR-121123	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	**0.067 j**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-32i	12/13/2023	N	Intermediate	PA-32I-121323	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	**0.030 j**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-32i	12/13/2023	FD	Intermediate	DUP-02-121323	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	**0.031 j**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-44i	12/10/2023	N	Intermediate	PA-44I-121023	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
MWA-11i(d)	12/13/2023	N	Deep	MWA-11I(D)-121323	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	**0.031 j**	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
MWA-31i(d)	12/11/2023	N	Deep	MWA-31I(D)-121123	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U
MWA-56d	12/12/2023	N	Deep	MWA-56D-121223	< 47 U	< 3.8 U	< 2.8 U	< 25 U	**55 j**	< 2.4 U	< 4.3 U	< 2.9 U	< 5.1 U	< 2.1 U
MWA-56d	12/12/2023	FD	Deep	DUP-01-121223	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	**0.75 j**	< 0.51 U	< 0.21 U
MWA-58d	12/12/2023	N	Deep	MWA-58D-121223	< 24 U	< 1.9 U	< 1.4 U	< 13 U	**22 j**	< 1.2 U	< 2.2 U	< 1.5 U	< 2.6 U	< 1.1 U
PA-18d	12/12/2023	N	Deep	PA-18D-121223	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U
PA-19d	12/13/2023	N	Deep	PA-19D-121323	< 940 U	< 76 U	< 56 U	< 500 U	< 640 U	< 48 U	< 86 U	< 58 U	< 100 U	< 42 U
PA-20d	12/12/2023	N	Deep	PA-20D-121223	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	**2.6**	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U
PA-21d	12/12/2023	N	Deep	PA-21D-121223	< 2,400 U	< 190 U	< 140 U	< 1,300 U	**3,100 j**	< 120 U	< 220 U	< 150 U	< 260 U	< 110 U
PA-22d	12/12/2023	N	Deep	PA-22D-121223	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U
PA-23d	12/11/2023	N	Deep	PA-23D-121123	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	**3.5 j**	< 0.24 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U
PA-24d	12/11/2023	N	Deep	PA-24D-121123	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U
PA-25d	12/11/2023	N	Deep	PA-25D-121123	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-26d	12/11/2023	N	Deep	PA-26D-121123	< 2.5 U	< 0.12 U	< 0.15 U	< 1.7 U	< 3.1 U	< 0.030 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U
PA-27d	12/12/2023	N	Deep	PA-27D-121223	< 4.7 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U
PA-30d	12/13/2023	N	Deep	PA-30D-121323	< 940 U	< 76 U	< 56 U	< 500 U	< 640 U	< 48 U	< 86 U	< 58 U	< 100 U	< 42 U

Notes:
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				Analyte	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chlorobromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane
				Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
				FSWP SHSC (shaded values indicate results above the value shown)	0.92	0.16	64	NE	NE	28	NE	590	NE	1.3
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID										
MWA-41	12/10/2023	N	Shallow	MWA-41-121023	< 0.083 U	< 0.025 U	< 0.20 U	< 0.050 U	< 0.096 U	< 0.030 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U
MWA-63	12/12/2023	N	Shallow	MWA-63-121223	< 0.53 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	**1,100**	< 0.28 U	**4.8**	< 0.42 U	< 0.43 U
MWA-82	12/10/2023	N	Shallow	MWA-82-121023	< 0.083 U	< 0.025 U	< 0.20 U	< 0.050 U	< 0.096 U	**0.28**	< 0.14 U	**0.069 j**	< 0.090 U	< 0.055 U
PA-03	12/11/2023	N	Shallow	PA-03-121123	< 0.083 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.096 U	< 0.030 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U
PA-04	12/12/2023	N	Shallow	PA-04-121223	< 0.083 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.096 U	< 0.030 U	**0.16 j**	< 0.055 U	< 0.090 U	< 0.055 U
PA-08	12/11/2023	N	Shallow	PA-08-121123	< 0.083 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.096 U	< 0.030 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U
PA-09	12/11/2023	N	Shallow	PA-09-121123	< 0.083 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.096 U	< 0.030 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U
PA-31	12/12/2023	N	Shallow	PA-31-121223	< 0.083 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.096 U	**0.052 J+**	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U
MWA-81i	12/10/2023	N	Intermediate	MWA-81I-121023	< 0.083 U	< 0.025 U	< 0.20 U	< 0.050 U	< 0.096 U	< 0.030 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U
PA-10i	12/12/2023	N	Intermediate	PA-10I-121223	< 0.083 U	< 0.025 U	**0.90**	< 0.050 U	< 0.096 U	< 0.030 U	**0.20 j**	**0.22**	< 0.090 U	< 0.055 U
PA-15i	12/11/2023	N	Intermediate	PA-15I-121123	< 0.083 U	< 0.025 U	< 0.20 U	< 0.050 U	< 0.096 U	< 0.030 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U
PA-16i	12/11/2023	N	Intermediate	PA-16I-121123	< 0.083 U	< 0.025 U	< 0.20 U	< 0.050 U	< 0.096 U	< 0.030 U	**0.18 j**	< 0.055 U	< 0.090 U	< 0.055 U
PA-17iR	12/11/2023	N	Intermediate	PA-17IR-121123	**0.10 j**	< 0.025 U	< 0.20 U	< 0.050 U	< 0.096 U	< 0.030 U	< 0.14 U	**0.055 j**	< 0.090 U	< 0.055 U
PA-32i	12/13/2023	N	Intermediate	PA-32I-121323	< 0.083 U	< 0.025 U	**0.15 j**	< 0.050 U	**0.19 j**	< 0.030 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U
PA-32i	12/13/2023	FD	Intermediate	DUP-02-121323	< 0.083 U	< 0.025 U	**0.18 j**	< 0.050 U	**0.18 j**	< 0.030 U	**0.22 j**	**0.065 j**	< 0.090 U	< 0.055 U
PA-44i	12/10/2023	N	Intermediate	PA-44I-121023	< 0.083 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.096 U	< 0.030 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U
MWA-11i(d)	12/13/2023	N	Deep	MWA-11I(D)-121323	< 0.083 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.096 U	< 0.030 U	< 0.14 U	**0.32**	< 0.090 U	< 0.055 U
MWA-31i(d)	12/11/2023	N	Deep	MWA-31I(D)-121123	< 0.53 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	**41**	< 0.28 U	< 0.35 U	< 0.42 U	< 0.43 U
MWA-56d	12/12/2023	N	Deep	MWA-56D-121223	< 5.3 U	< 3.0 U	< 4.4 U	< 2.9 U	< 3.5 U	**150**	< 2.8 U	< 3.5 U	< 4.2 U	< 4.3 U
MWA-56d	12/12/2023	FD	Deep	DUP-01-121223	< 0.53 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	**150**	< 0.28 U	< 0.35 U	< 0.42 U	< 0.43 U
MWA-58d	12/12/2023	N	Deep	MWA-58D-121223	< 2.7 U	< 1.5 U	< 2.2 U	< 1.5 U	< 1.8 U	**190**	< 1.4 U	< 1.8 U	< 2.1 U	< 2.2 U
PA-18d	12/12/2023	N	Deep	PA-18D-121223	< 0.53 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	< 0.26 U	< 0.28 U	< 0.35 U	< 0.42 U	< 0.43 U
PA-19d	12/13/2023	N	Deep	PA-19D-121323	< 110 U	< 60 U	**7,600**	< 58 U	< 70 U	< 52 U	< 56 U	< 70 U	< 84 U	< 86 U
PA-20d	12/12/2023	N	Deep	PA-20D-121223	< 0.53 U	< 0.30 U	**18**	< 0.29 U	< 0.35 U	< 0.26 U	< 0.28 U	< 0.35 U	< 0.42 U	< 0.43 U
PA-21d	12/12/2023	N	Deep	PA-21D-121223	< 270 U	< 150 U	**11,000**	< 150 U	< 180 U	< 130 U	< 140 U	< 180 U	< 210 U	< 220 U
PA-22d	12/12/2023	N	Deep	PA-22D-121223	< 0.53 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	**13**	< 0.28 U	< 0.35 U	< 0.42 U	< 0.43 U
PA-23d	12/11/2023	N	Deep	PA-23D-121123	**0.69 j**	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	< 0.26 U	< 0.28 U	< 0.35 U	< 0.42 U	< 0.43 U
PA-24d	12/11/2023	N	Deep	PA-24D-121123	**0.72 j**	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	< 0.26 U	< 0.28 U	< 0.35 U	< 0.42 U	< 0.43 U
PA-25d	12/11/2023	N	Deep	PA-25D-121123	< 0.083 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.096 U	< 0.030 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U
PA-26d	12/11/2023	N	Deep	PA-26D-121123	< 0.083 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.096 U	< 0.030 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U
PA-27d	12/12/2023	N	Deep	PA-27D-121223	< 0.53 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	< 0.26 U	< 0.28 U	**0.49 j**	< 0.42 U	< 0.43 U
PA-30d	12/13/2023	N	Deep	PA-30D-121323	< 110 U	< 60 U	**22,000**	< 58 U	< 70 U	< 52 U	< 56 U	< 70 U	< 84 U	< 86 U

Notes:
Bolded values indicate concentrations above the Method Detection Limit.
Shaded values indicate concentrations above the FSWP SHSC.
< = Compound not detected. Method Detection Limit shown.
µg/L = micrograms per liter
FD = Field Duplicate Sample
FSWP SHSC = Feasibility Study Work Plan Indirect Exposure Pathway Selected Hot Spot Criteria
N = Normal Environmental Sample
NE = Not Established
SW8260C analyses performed by TestAmerica - Seattle, WA of Seattle.

Qualifiers - Organic:
j = The analyte was positively identified below the RDL; associated numerical value is the approximate concentration of the analyte in the sample.
J- = The concentration of the sample is considered to be biased low, as the associated QC results are outside the lower control limits.
J+ = The concentration of the sample is considered to be biased high, as the associated QC results exceed the upper control limits.
U = Analyte was analyzed for, but not detected above, the limit displayed.
UJ = Analyte was analyzed for, but not detected. The detection limit is a quantitative estimate.

Table 4
Volatile Organic Compounds Results
Arkema Quarter 4, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

				Analyte	Dibromomethane	Dichlorodifluoromethane (Freon 12)	Ethylbenzene	Ethylene dibromide	Hexachlorobutadiene	Isopropylbenzene (Cumene)	m,p-Xylenes	Methyl tert-butyl ether	Methylene chloride	Naphthalene
				Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
				FSWP SHSC (shaded values indicate results above the value shown)	NE	NE	7.3	NE	0.01	NE	1.8	NE	59	12
Location ID	**Sample Date**	**Sample Type**	**Aquifer Classification**	**Sample ID**										
MWA-41	12/10/2023	N	Shallow	MWA-41-121023	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*
MWA-63	12/12/2023	N	Shallow	MWA-63-121223	*< 0.34 U*	*< 0.53 U*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.53 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*
MWA-82	12/10/2023	N	Shallow	MWA-82-121023	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*
PA-03	12/11/2023	N	Shallow	PA-03-121123	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*
PA-04	12/12/2023	N	Shallow	PA-04-121223	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*
PA-08	12/11/2023	N	Shallow	PA-08-121123	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*
PA-09	12/11/2023	N	Shallow	PA-09-121123	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*
PA-31	12/12/2023	N	Shallow	PA-31-121223	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*
MWA-81i	12/10/2023	N	Intermediate	MWA-81I-121023	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*
PA-10i	12/12/2023	N	Intermediate	PA-10I-121223	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*
PA-15i	12/11/2023	N	Intermediate	PA-15I-121123	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*
PA-16i	12/11/2023	N	Intermediate	PA-16I-121123	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*
PA-17iR	12/11/2023	N	Intermediate	PA-17IR-121123	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*
PA-32i	12/13/2023	N	Intermediate	PA-32I-121323	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*
PA-32i	12/13/2023	FD	Intermediate	DUP-02-121323	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*
PA-44i	12/10/2023	N	Intermediate	PA-44I-121023	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*
MWA-11i(d)	12/13/2023	N	Deep	MWA-11I(D)-121323	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*
MWA-31i(d)	12/11/2023	N	Deep	MWA-31I(D)-121123	*< 0.34 U*	*< 0.53 U*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.53 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*
MWA-56d	12/12/2023	N	Deep	MWA-56D-121223	*< 3.4 U*	*< 5.3 U*	*< 5.0 U*	*< 4.0 U*	*< 7.9 U*	*< 4.4 U*	*< 5.3 U*	*< 4.4 U*	*< 14 U*	*< 9.3 U*
MWA-56d	12/12/2023	FD	Deep	DUP-01-121223	*< 0.34 U*	*< 0.53 U*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.53 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*
MWA-58d	12/12/2023	N	Deep	MWA-58D-121223	*< 1.7 U*	*< 2.7 U*	*< 2.5 U*	*< 2.0 U*	*< 4.0 U*	*< 2.2 U*	*< 2.7 U*	*< 2.2 U*	*< 7.2 U*	*< 4.7 U*
PA-18d	12/12/2023	N	Deep	PA-18D-121223	*< 0.34 U*	*< 0.53 U*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.53 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*
PA-19d	12/13/2023	N	Deep	PA-19D-121323	*< 68 U*	*< 110 U*	*< 100 U*	*< 80 U*	*< 160 U*	*< 88 U*	*< 110 U*	*< 88 U*	*< 290 U*	*< 190 U*
PA-20d	12/12/2023	N	Deep	PA-20D-121223	*< 0.34 U*	*< 0.53 U*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.53 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*
PA-21d	12/12/2023	N	Deep	PA-21D-121223	*< 170 U*	*< 270 U*	*< 250 U*	*< 200 U*	*< 400 U*	*< 220 U*	*< 270 U*	*< 220 U*	*< 720 U*	*< 470 U*
PA-22d	12/12/2023	N	Deep	PA-22D-121223	*< 0.34 U*	*< 0.53 U*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.53 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*
PA-23d	12/11/2023	N	Deep	PA-23D-121123	*< 0.34 U*	*< 0.53 U*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.53 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*
PA-24d	12/11/2023	N	Deep	PA-24D-121123	*< 0.34 U*	*< 0.53 U*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.53 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*
PA-25d	12/11/2023	N	Deep	PA-25D-121123	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*
PA-26d	12/11/2023	N	Deep	PA-26D-121123	*< 0.062 U*	*< 0.13 U*	*< 0.030 U*	*< 0.025 U*	*< 0.067 U*	*< 0.19 U*	*< 0.12 U*	*< 0.070 U*	*< 1.2 U*	*< 0.22 U*
PA-27d	12/12/2023	N	Deep	PA-27D-121223	*< 0.34 U*	*< 0.53 U*	*< 0.50 U*	*< 0.40 U*	*< 0.79 U*	*< 0.44 U*	*< 0.53 U*	*< 0.44 U*	*< 1.4 U*	*< 0.93 U*
PA-30d	12/13/2023	N	Deep	PA-30D-121323	*< 68 U*	*< 110 U*	*< 100 U*	*< 80 U*	*< 160 U*	*< 88 U*	*< 110 U*	*< 88 U*	*< 290 U*	*< 190 U*

Notes:
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< = Compound not detected. Method Detection Limit shown.
µg/L = micrograms per liter
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SW8260C analyses performed by TestAmerica - Seattle, WA of Seattle.

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U = Analyte was analyzed for, but not detected above, the limit displayed.
UJ = Analyte was analyzed for, but not detected. The detection limit is a quantitative estimate.

Table 4
Volatile Organic Compounds Results
Arkema Quarter 4, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

				Analyte	n-Butylbenzene	n-Propylbenzene	o-Chlorotoluene (2-chlorotoluene)	o-Xylene	sec-Butylbenzene	Styrene	tert-Butylbenzene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene
				Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
				FSWP SHSC (shaded values indicate results above the value shown)	NE	NE	NE	13	NE	NE	NE	0.33	9.8	1000
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID										
MWA-41	12/10/2023	N	Shallow	MWA-41-121023	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*
MWA-63	12/12/2023	N	Shallow	MWA-63-121223	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*	*< 0.53 U*	*< 0.58 U*	**24**	*< 0.39 U*	*< 0.39 U*
MWA-82	12/10/2023	N	Shallow	MWA-82-121023	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	**0.34 j**	*< 0.050 U*	*< 0.033 U*
PA-03	12/11/2023	N	Shallow	PA-03-121123	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	**0.15 j**	*< 0.033 U*
PA-04	12/12/2023	N	Shallow	PA-04-121223	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	**0.12 j**	*< 0.050 U*	*< 0.033 U*
PA-08	12/11/2023	N	Shallow	PA-08-121123	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*
PA-09	12/11/2023	N	Shallow	PA-09-121123	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*
PA-31	12/12/2023	N	Shallow	PA-31-121223	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	**0.21 j**	*< 0.050 U*	*< 0.033 U*
MWA-81i	12/10/2023	N	Intermediate	MWA-81I-121023	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*
PA-10i	12/12/2023	N	Intermediate	PA-10I-121223	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*
PA-15i	12/11/2023	N	Intermediate	PA-15I-121123	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*
PA-16i	12/11/2023	N	Intermediate	PA-16I-121123	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*
PA-17iR	12/11/2023	N	Intermediate	PA-17IR-121123	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*
PA-32i	12/13/2023	N	Intermediate	PA-32I-121323	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*
PA-32i	12/13/2023	FD	Intermediate	DUP-02-121323	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*
PA-44i	12/10/2023	N	Intermediate	PA-44I-121023	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*
MWA-11i(d)	12/13/2023	N	Deep	MWA-11I(D)-121323	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	**0.037 j**
MWA-31i(d)	12/11/2023	N	Deep	MWA-31I(D)-121123	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*	*< 0.53 UJ*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*
MWA-56d	12/12/2023	N	Deep	MWA-56D-121223	*< 4.4 U*	*< 5.0 U*	*< 5.1 U*	*< 3.9 U*	*< 4.9 U*	*< 5.3 U*	*< 5.8 U*	*< 4.1 U*	*< 3.9 U*	*< 3.9 U*
MWA-56d	12/12/2023	FD	Deep	DUP-01-121223	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*	*< 0.53 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*
MWA-58d	12/12/2023	N	Deep	MWA-58D-121223	*< 2.2 U*	*< 2.5 U*	*< 2.6 U*	*< 2.0 U*	*< 2.5 U*	*< 2.7 U*	*< 2.9 U*	*< 2.1 U*	*< 2.0 U*	*< 2.0 U*
PA-18d	12/12/2023	N	Deep	PA-18D-121223	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*	*< 0.53 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*
PA-19d	12/13/2023	N	Deep	PA-19D-121323	*< 88 U*	*< 100 U*	*< 100 U*	*< 78 U*	*< 98 U*	*< 110 U*	*< 120 U*	*< 82 U*	*< 78 U*	*< 78 U*
PA-20d	12/12/2023	N	Deep	PA-20D-121223	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*	*< 0.53 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*
PA-21d	12/12/2023	N	Deep	PA-21D-121223	*< 220 U*	*< 250 U*	*< 260 U*	*< 200 U*	*< 250 U*	*< 270 U*	*< 290 U*	*< 210 U*	*< 200 U*	*< 200 U*
PA-22d	12/12/2023	N	Deep	PA-22D-121223	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*	*< 0.53 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*
PA-23d	12/11/2023	N	Deep	PA-23D-121123	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*	*< 0.53 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*
PA-24d	12/11/2023	N	Deep	PA-24D-121123	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*	*< 0.53 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*
PA-25d	12/11/2023	N	Deep	PA-25D-121123	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	*< 0.050 U*	*< 0.033 U*
PA-26d	12/11/2023	N	Deep	PA-26D-121123	*< 0.23 U*	*< 0.091 U*	*< 0.12 U*	*< 0.15 U*	*< 0.17 U*	*< 0.19 U*	*< 0.26 U*	*< 0.084 U*	**0.052 j**	*< 0.033 U*
PA-27d	12/12/2023	N	Deep	PA-27D-121223	*< 0.44 U*	*< 0.50 U*	*< 0.51 U*	*< 0.39 U*	*< 0.49 U*	*< 0.53 U*	*< 0.58 U*	*< 0.41 U*	*< 0.39 U*	*< 0.39 U*
PA-30d	12/13/2023	N	Deep	PA-30D-121323	*< 88 U*	*< 100 U*	*< 100 U*	*< 78 U*	*< 98 U*	*< 110 U*	*< 120 U*	*< 82 U*	*< 78 U*	*< 78 U*

Notes:
Bolded values indicate concentrations above the Method Detection Limit.
Shaded values indicate concentrations above the FSWP SHSC.
< = Compound not detected. Method Detection Limit shown.
µg/L = micrograms per liter
FD = Field Duplicate Sample
FSWP SHSC = Feasibility Study Work Plan Indirect Exposure Pathway Selected Hot Spot Criteria
N = Normal Environmental Sample
NE = Not Established
SW8260C analyses performed by TestAmerica - Seattle, WA of Seattle.

Qualifiers - Organic:
j = The analyte was positively identified below the RDL; associated numerical value is the approximate concentration of the analyte in the sample.
J- = The concentration of the sample is considered to be biased low, as the associated QC results are outside the lower control limits.
J+ = The concentration of the sample is considered to be biased high, as the associated QC results exceed the upper control limits.
U = Analyte was analyzed for, but not detected above, the limit displayed.
UJ = Analyte was analyzed for, but not detected. The detection limit is a quantitative estimate.

Table 4
Volatile Organic Compounds Results
Arkema Quarter 4, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

				Analyte	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane (Freon 11)	Vinyl chloride
				Unit	µg/L	µg/L	µg/L	µg/L
				FSWP SHSC (shaded values indicate results above the value shown)	NE	3	NE	0.24
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID				
MWA-41	12/10/2023	N	Shallow	MWA-41-121023	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
MWA-63	12/12/2023	N	Shallow	MWA-63-121223	*< 0.41 U*	**4.1**	*< 0.36 U*	*< 0.22 U*
MWA-82	12/10/2023	N	Shallow	MWA-82-121023	*< 0.092 U*	**0.33**	*< 0.12 U*	*< 0.040 U*
PA-03	12/11/2023	N	Shallow	PA-03-121123	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-04	12/12/2023	N	Shallow	PA-04-121223	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-08	12/11/2023	N	Shallow	PA-08-121123	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-09	12/11/2023	N	Shallow	PA-09-121123	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-31	12/12/2023	N	Shallow	PA-31-121223	*< 0.092 U*	**0.090 j**	*< 0.12 U*	*< 0.040 U*
MWA-81i	12/10/2023	N	Intermediate	MWA-81I-121023	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-10i	12/12/2023	N	Intermediate	PA-10I-121223	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	**0.25**
PA-15i	12/11/2023	N	Intermediate	PA-15I-121123	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-16i	12/11/2023	N	Intermediate	PA-16I-121123	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-17iR	12/11/2023	N	Intermediate	PA-17IR-121123	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-32i	12/13/2023	N	Intermediate	PA-32I-121323	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	**0.083 j**
PA-32i	12/13/2023	FD	Intermediate	DUP-02-121323	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	**0.072 j**
PA-44i	12/10/2023	N	Intermediate	PA-44I-121023	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
MWA-11i(d)	12/13/2023	N	Deep	MWA-11I(D)-121323	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
MWA-31i(d)	12/11/2023	N	Deep	MWA-31I(D)-121123	*< 0.41 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
MWA-56d	12/12/2023	N	Deep	MWA-56D-121223	*< 4.1 U*	*< 2.6 U*	*< 3.6 U*	*< 2.2 U*
MWA-56d	12/12/2023	FD	Deep	DUP-01-121223	*< 0.41 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
MWA-58d	12/12/2023	N	Deep	MWA-58D-121223	*< 2.1 U*	*< 1.3 U*	*< 1.8 U*	*< 1.1 U*
PA-18d	12/12/2023	N	Deep	PA-18D-121223	*< 0.41 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
PA-19d	12/13/2023	N	Deep	PA-19D-121323	*< 82 U*	*< 52 U*	*< 72 U*	*< 44 U*
PA-20d	12/12/2023	N	Deep	PA-20D-121223	*< 0.41 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
PA-21d	12/12/2023	N	Deep	PA-21D-121223	*< 210 U*	*< 130 U*	*< 180 U*	*< 110 U*
PA-22d	12/12/2023	N	Deep	PA-22D-121223	*< 0.41 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
PA-23d	12/11/2023	N	Deep	PA-23D-121123	*< 0.41 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
PA-24d	12/11/2023	N	Deep	PA-24D-121123	*< 0.41 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
PA-25d	12/11/2023	N	Deep	PA-25D-121123	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-26d	12/11/2023	N	Deep	PA-26D-121123	*< 0.092 U*	*< 0.066 U*	*< 0.12 U*	*< 0.040 U*
PA-27d	12/12/2023	N	Deep	PA-27D-121223	*< 0.41 U*	*< 0.26 U*	*< 0.36 U*	*< 0.22 U*
PA-30d	12/13/2023	N	Deep	PA-30D-121323	*< 82 U*	*< 52 U*	*< 72 U*	*< 44 U*

Notes:
Bolded values indicate concentrations above the Method Detection Limit.
Shaded values indicate concentrations above the FSWP SHSC.
< = Compound not detected. Method Detection Limit shown.
µg/L = micrograms per liter
FD = Field Duplicate Sample
FSWP SHSC = Feasibility Study Work Plan Indirect Exposure Pathway Selected Hot Spot Criteria
N = Normal Environmental Sample
NE = Not Established
SW8260C analyses performed by TestAmerica - Seattle, WA of Seattle.

Qualifiers - Organic:
j = The analyte was positively identified below the RDL; associated numerical value is the approximate concentration of the analyte in the sample.
J- = The concentration of the sample is considered to be biased low, as the associated QC results are outside the lower control limits.
J+ = The concentration of the sample is considered to be biased high, as the associated QC results exceed the upper control limits.
U = Analyte was analyzed for, but not detected above, the limit displayed.
UJ = Analyte was analyzed for, but not detected. The detection limit is a quantitative estimate.

Table 5
Additional Compounds Results
Arkema Quarter 4, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

				Analyte	Chloride	Perchlorate
				Unit	mg/L	µg/L
				FSWP SHSC (shaded values indicate results above the value shown)	230	1,800
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID		
MWA-41	12/10/2023	N	Shallow	MWA-41-121023	**5.6**	*< 2.0*
MWA-63	12/12/2023	N	Shallow	MWA-63-121223	**15**	*< 2.0*
MWA-82	12/10/2023	N	Shallow	MWA-82-121023	**14**	*< 10*
PA-03	12/11/2023	N	Shallow	PA-03-121123	**4.6**	*< 4.0*
PA-04	12/12/2023	N	Shallow	PA-04-121223	**6.1**	*< 2.0*
PA-08	12/11/2023	N	Shallow	PA-08-121123	**29**	*< 4.0*
PA-09	12/11/2023	N	Shallow	PA-09-121123	**5.6**	*< 2.0*
PA-31	12/12/2023	N	Shallow	PA-31-121223	**6.4**	*< 2.0*
MWA-81i	12/10/2023	N	Intermediate	MWA-81i-121023	**39**	*< 2.0*
PA-10i	12/12/2023	N	Intermediate	PA-10i-121223	**58**	*< 4.0*
PA-15i	12/11/2023	N	Intermediate	PA-15i-121123	**4.4**	*< 10*
PA-16i	12/11/2023	N	Intermediate	PA-16i-121123	**12**	*< 4.0*
PA-17iR	12/11/2023	N	Intermediate	PA-17iR-121123	**20**	*< 4.0*
PA-32i	12/13/2023	N	Intermediate	PA-32i-121323	**32**	*< 4.0*
PA-32i	12/13/2023	FD	Intermediate	DUP-02-121323	**34**	*< 4.0*
PA-44i	12/10/2023	N	Intermediate	PA-44i-121023	**1.9**	*< 4.0*
MWA-11i(d)	12/13/2023	N	Deep	MWA-11i(d)-121323	**780**	*< 10*
MWA-31i(d)	12/11/2023	N	Deep	MWA-31i(d)-121123	**14,000**	**28,000**
MWA-56d	12/12/2023	N	Deep	MWA-56d-121223	**14,000**	**14,000**
MWA-56d	12/12/2023	FD	Deep	DUP-01-121223	**14,000**	**14,000**
MWA-58d	12/12/2023	N	Deep	MWA-58d-121223	**19,000**	**50,000**
PA-18d	12/12/2023	N	Deep	PA-18d-121223	**54**	*< 10*
PA-19d	12/13/2023	N	Deep	PA-19d-121323	**340**	*< 10*
PA-20d	12/12/2023	N	Deep	PA-20d-121223	**810**	*< 10*
PA-21d	12/12/2023	N	Deep	PA-21d-121223	**340**	*< 10*
PA-22d	12/12/2023	N	Deep	PA-22d-121223	**5,300**	**13,000**
PA-23d	12/11/2023	N	Deep	PA-23d-121123	**30,000**	*< 300*
PA-24d	12/11/2023	N	Deep	PA-24d-121123	**31,000**	*< 200*
PA-25d	12/11/2023	N	Deep	PA-25d-121123	**12**	*< 2.0*
PA-26d	12/11/2023	N	Deep	PA-26d-121123	**27**	*< 2.0*
PA-27d	12/12/2023	N	Deep	PA-27d-121223	**450**	*< 10*
PA-30d	12/13/2023	N	Deep	PA-30d-121323	**320**	*< 10*

Notes:
Bolded values indicate concentrations above the Method Detection Limit.
Shaded values indicate concentrations above the FSWP SHSC.
< = Compound not detected. Method Detection Limit shown.
µg/L = micrograms per liter
mg/L = milligrams per liter
FD = Field Duplicate Sample
FSWP SHSC = Feasibility Study Work Plan Indirect Exposure Pathway Selected Hot Spot Criteria
N = Normal Environmental Sample
E300 analyses performed by TestAmerica - Seattle, WA of Seattle.
E314.0 analyses performed by TestAmerica - Sacramento, CA of West Sacramento.

FIGURES

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q4\Figure 1 Site Layout.mxd REVISED: 02/15/2024, SCALE: 1:2,040 when printed at 11x17 DRAWN BY: Kelly Lyons DATE: 2/15/2024

Willamette River

GCC1 & Proximal Wells

GCC2

GCC3

GCC4 & Proximal Wells

GCC5 & Proximal Wells

GCC6 & Proximal Wells

Groundwater Treatment Plant

Sand Filter Basin

Detention Basin

Well Distal from BW and GCCs

RP-02-31
RP-10-30
MWA-2
MWA-8i
MWA-11i(d)
MWA-12i(d)
MWA-15R
MWA-16i
MWA-18
MWA-19
MWA-20
MWA-22
MWA-23
MWA-24
MWA-29
MWA-30
MWA-32i
MWA-33
MWA-34i
MWA-39
MWA-40
MWA-41
MWA-42
MWA-43
MWA-46
MWA-47
MWA-49i
MWA-51i
MWA-53i
MWA-54i
MWA-56d
MWA-58d
MWA-61
MWA-63
MWA-64i
MWA-66i
MWA-69
MWA-6r
MWA-70i
MWA-71
MWA-72
MWA-73
MWA-74i
MWA-75i
MWA-76g
MWA-77g
MWA-7(i)
MWA-81i
MWA-82
MWA-83
MWA-84
MWA-85
MWA-86
MWA-87
MWA-88
MWA-89
MW-29
MW-30
PA-03
PA-04
PA-05
PA-06
PA-07
PA-08
PA-09
PA-10i
PA-11i
PA-12i
PA-13i
PA-14i
PA-15i
PA-16i
PA-17iR
PA-18d
PA-19d
PA-20d
PA-21d
PA-22d
PA-23d
PA-24d
PA-25d
PA-26d
PA-27d
PA-28
PA-29i
PA-30d
PA-31
PA-32i
PA-33
PA-34i
PA-35
PA-36
PA-37i
PA-38
PA-39i
PA-40i
PA-41
PA-42
PA-43
PA-44i
RW-5
RW-6i
RW-7
RW-8
RW-9i
RW-10
RW-11i
RW-12
RW-13i
RW-14
RW-15
RW-16i
RW-17
RW-18
RW-19
RW-20
RW-21i
RW-22
RW-23
RW-24i
RW-25
RW-26i
EW-1
EW-2
EW-3
EW-4
EW-5
EW-6
EW-7
EW-8
EW-9
EW-10
EW-11
EW-12
EW-13
EW-14

Legend

- Shallow Zone Monitoring Well
- Intermediate Zone Monitoring Well
- Deep Zone Monitoring Well
- Gravel Zone Monitoring Well
- Shallow Zone Piezometer
- Intermediate Zone Piezometer
- Deep Zone Piezometer
- Shallow Zone Recovery Well
- Intermediate Zone Recovery Well
- Trench Extraction Well
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Extraction Trench (Not To Scale)

Notes:
GCC = Gradient Control Cluster.
GWBW = Ground water barrier wall.

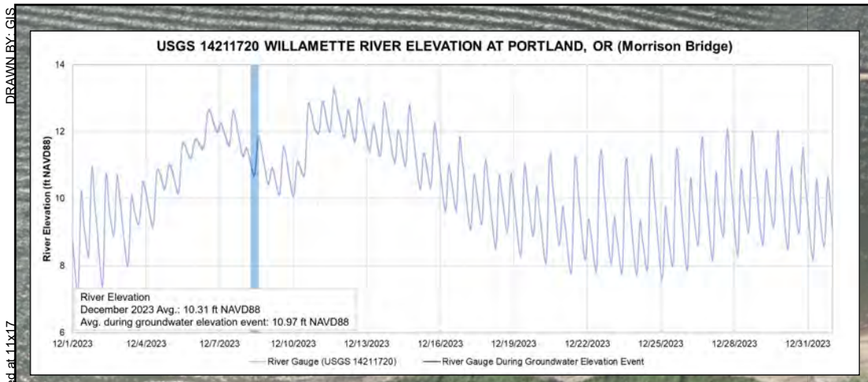
N

0 170 340
Feet

Source: City of Portland Aerial Imagery, flown Summer 2021 NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

Figure 1
Site Layout
Quarter 4, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM



Legend

- Shallow Zone Piezometer
- Shallow Zone Monitoring Well
- Active Recovery Well; Not Used During Contouring
- Shallow-Intermediate Zone Monitoring Well
- 27.70 Groundwater Elevation (ft NAVD88)
- Shallow Zone Groundwater Contours (ft NAVD88) Dashed where Inferred
- Target Capture Zone
- Barrier Wall Alignment
- Extraction Trench (Not To Scale)

Notes:
* Value not used for contouring.
Water levels collected December 8, 2023.
ft NAVD88: feet North American Vertical Datum of 1988.
Aerial Photo: City of Portland, Summer 2017.

N

0 160 320
Feet

Figure 2
December 2023 Shallow Zone Groundwater Contours
Quarter 4, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
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NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl

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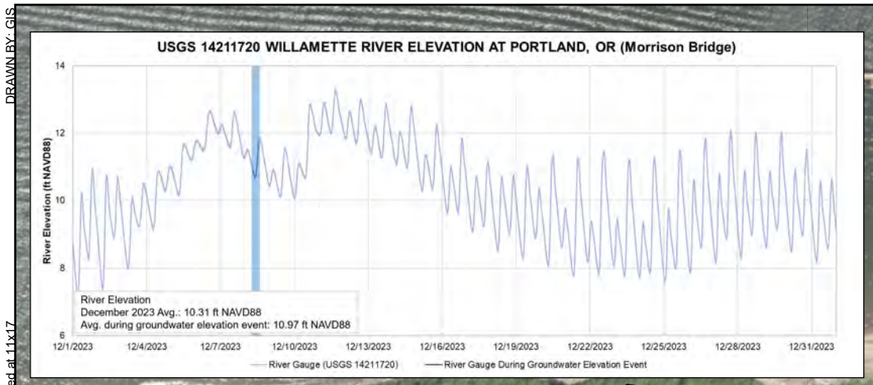

Legend

- Intermediate Zone Piezometer
- Intermediate Zone Monitoring Well
- Shallow-Intermediate Zone Monitoring Well
- 27.70 Groundwater Elevation (ft NAVD88)
- Intermediate Zone Groundwater Contours (ft NAVD88) Dashed where Inferred
- Target Capture Zone
- Barrier Wall Alignment
- Extraction Trench (Not To Scale)

Notes:
* Value not used for contouring.
Water levels collected December 8, 2023.
ft NAVD88: feet North American Vertical Datum of 1988.
Aerial Photo: City of Portland, Summer 2017.

N

0 160 320
Feet

Figure 3
December 2023 Intermediate Zone Groundwater Contours
Quarter 4, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

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NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl

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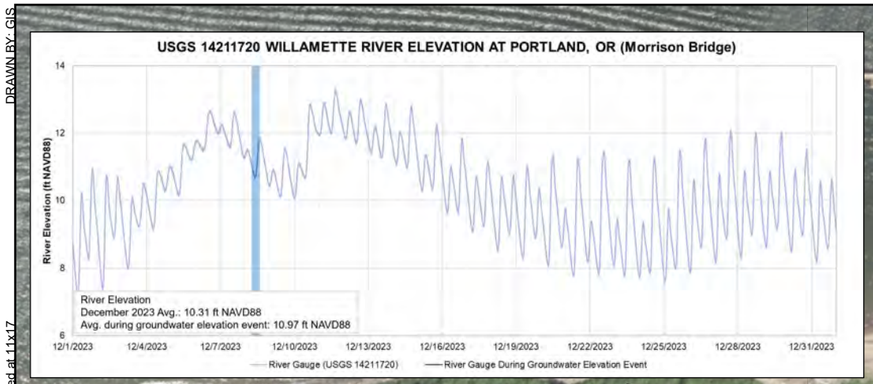

Legend

- Deep Zone Piezometer
- Deep Zone Monitoring Well
- Gravel Zone Monitoring Well
- 27.70 Groundwater Elevation (ft NAVD88)
- Deep Zone Groundwater Contours (ft NAVD88) Dashed where Inferred
- Target Capture Zone
- Barrier Wall Alignment

Notes:
* Value not used for contouring.
Gravel zone wells not used in contouring.
Water levels collected December 8, 2023.
ft NAVD88: feet North American Vertical Datum of 1988.
Aerial Photo: City of Portland, Summer 2017.

N

0 160 320
Feet

Figure 4
December 2023 Deep Zone Groundwater Contours
Quarter 4, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

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NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl

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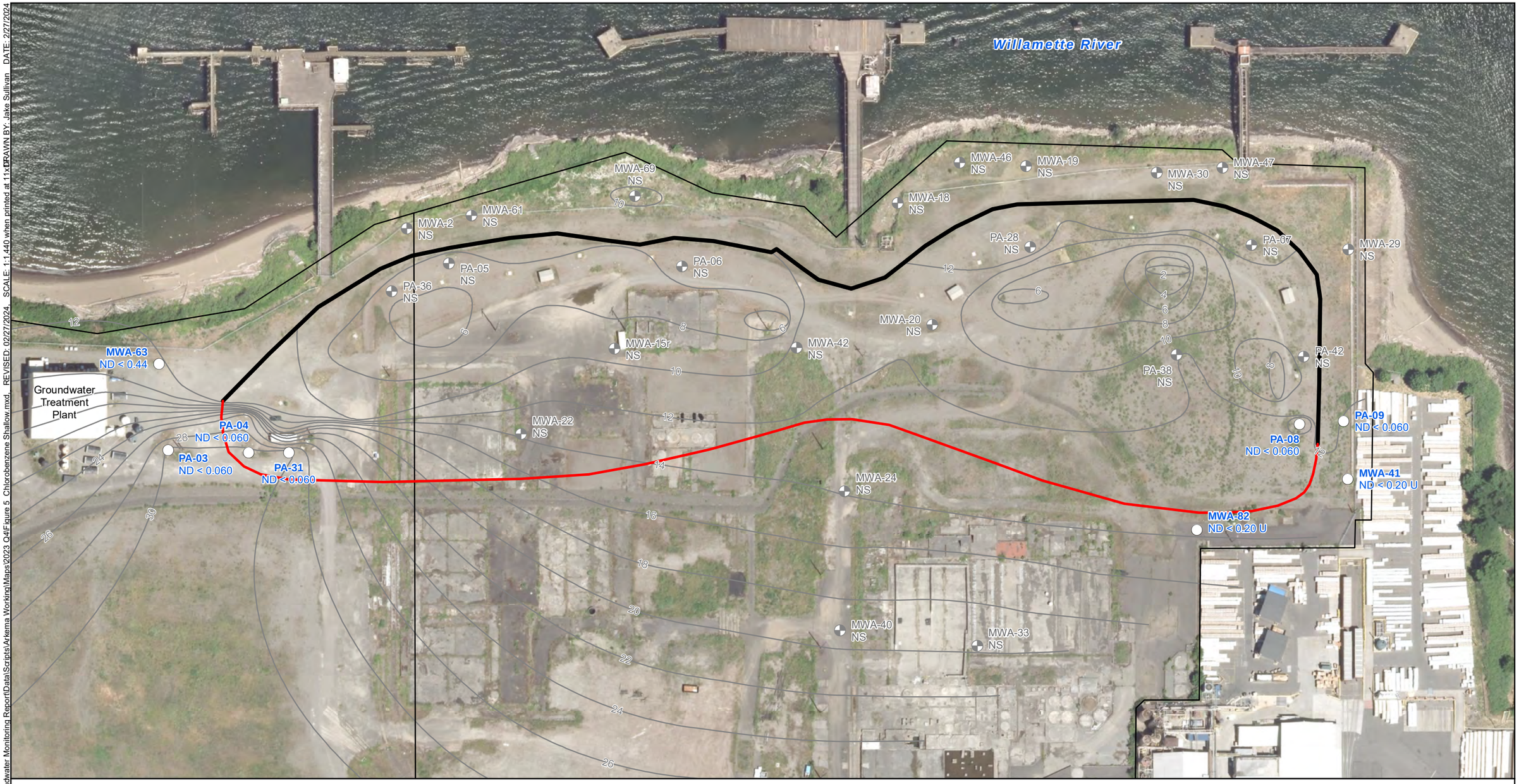


Legend

- > 6,400 ug/L
- >= 640 - 6,400 ug/L
- >= 64 - < 640 ug/L
- < 64 ug/L
- Not Detected
- Not Sampled
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Shallow Zone Groundwater Contours (ft NAVD88) December 2023

Notes:
Samples Collected December 10–13, 2023
All results in micrograms per liter (ug/L)
Screening Criteria for Chlorobenzene = 64 ug/L
See Table 4 for definition of qualifiers
ND: Non-Detect

N

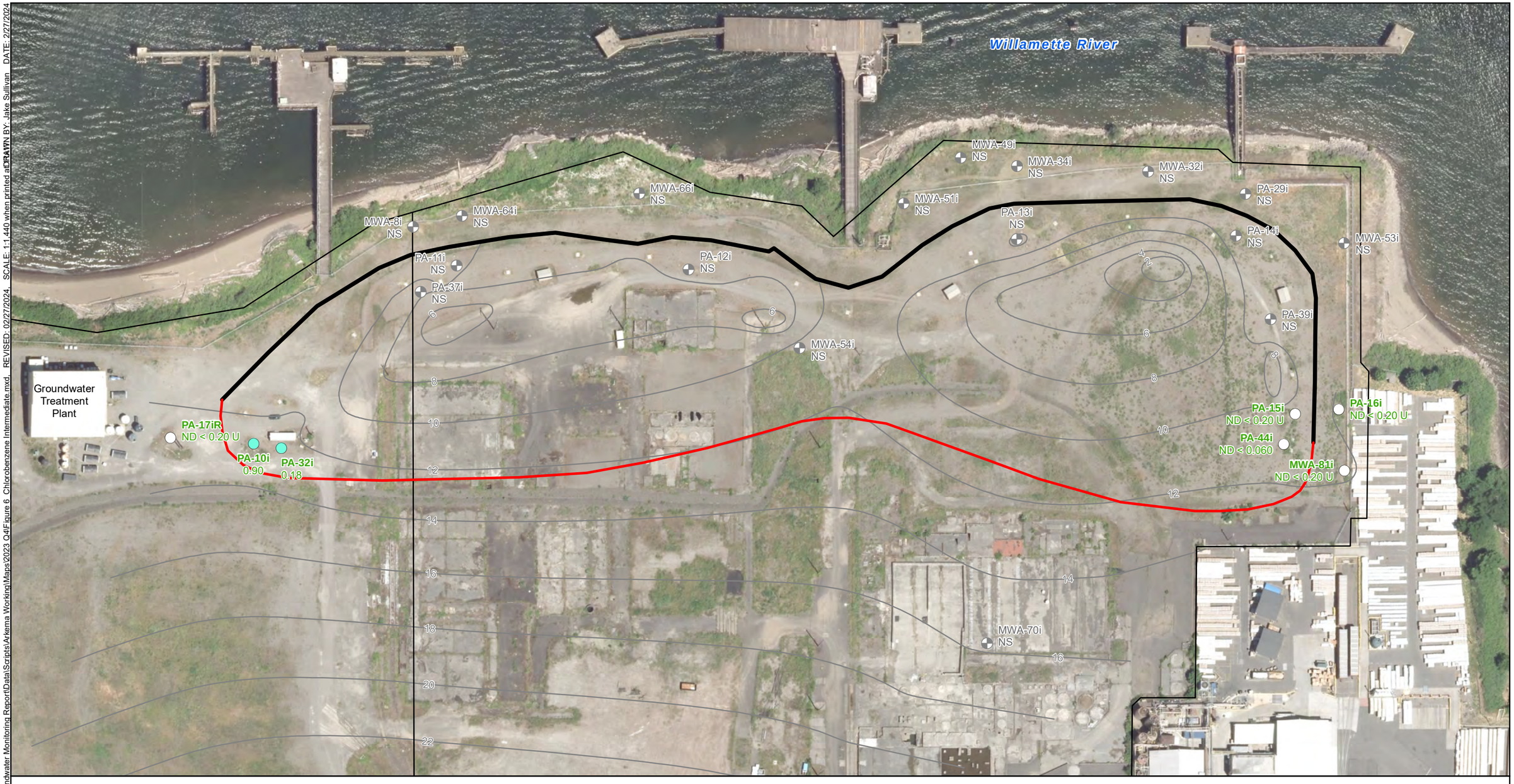
0 120 240
Feet

Figure 5
Chlorobenzene Groundwater Concentrations
Shallow Zone
Quarter 4, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

Source: City of Portland Aerial Imagery, flown Summer 2017; NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q4\Figure 5_Chlorobenzene Shallow.mxd, REVISED: 02/27/2024, SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 2/27/2024



Legend

- > 6,400 ug/L
- >= 640 - 6,400 ug/L
- >= 64 - < 640 ug/L
- < 64 ug/L
- Not Detected
- Not Sampled
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Intermediate Zone Groundwater Contours (ft NAVD88) December 2023

Notes:
Samples Collected December 10–13, 2023
All results in micrograms per liter (ug/L)
Screening Criteria for Chlorobenzene = 64 ug/L
See Table 4 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

Figure 6
Chlorobenzene Groundwater Concentrations
Intermediate Zone
Quarter 4, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

Source: City of Portland Aerial Imagery, flown Summer 2017; NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

M:\USI\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q4\Figure 7_Chlorobenzene Deep.mxd REVISED: 02/27/2024 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 2/27/2024

Willamette River

MWA-56d
ND < 0.44

MWA-58d
ND < 2.2

MWA-31i(d)
ND < 0.44

PA-24d
ND < 0.44

PA-23d
ND < 0.44

PA-22d
ND < 0.44

PA-21d
11000

PA-19d
7600

PA-30d
22000

PA-20d
18

MWA-11i(d)
ND < 0.060

PA-25d
ND < 0.060

PA-26d
ND < 0.060

PA-27d
ND < 0.44

PA-18d
ND < 0.44

Groundwater Treatment Plant

12

14

16

18

20

Legend

- > 6,400 ug/L
- >= 640 - 6,400 ug/L
- >= 64 - < 640 ug/L
- < 64 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Deep Zone Groundwater Contours (ft NAVD88) December 2023

Notes:
Samples Collected December 10–13, 2023
All results in micrograms per liter (ug/L)
Screening Criteria for Chlorobenzene = 64 ug/L
See Table 4 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

Figure 7
Chlorobenzene Groundwater Concentrations
Deep Zone
Quarter 4, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

Source: City of Portland Aerial Imagery, flown Summer 2017; NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

Willamette River

MWA-69 NS
MWA-61 NS
MWA-2 NS
MWA-46 NS
MWA-19 NS
MWA-30 NS
MWA-47 NS
MWA-18 NS
PA-28 NS
PA-07 NS
MWA-29 NS
PA-05 NS
PA-06 NS
PA-36 NS
MWA-20 NS
MWA-15r NS
MWA-42 NS
PA-38 NS
PA-42 NS
MWA-63 ND < 0.46
Groundwater Treatment Plant
PA-04 ND < 0.038
PA-08 ND < 0.038
PA-09 ND < 0.038
MWA-22 NS
PA-03 ND < 0.038
PA-31 ND < 0.038
MWA-24 NS
MWA-41 ND < 0.038
MWA-82 0.052
MWA-40 NS
MWA-33 NS

Legend

- > 1,400 ug/L
- >= 140 - 1,400 ug/L
- >= 14 - < 140 ug/L
- < 14 ug/L
- Not Detected
- Not Sampled
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Shallow Zone Groundwater Contours (ft NAVD88) December 2023

Notes:
Samples Collected December 10–13, 2023
All results in micrograms per liter (ug/L)
Screening Criteria for 1,2-Dichlorobenzene = 14 ug/L
See Table 4 for definition of qualifiers
ND: Non-Detect

N

0 120 240
Feet

Source: City of Portland Aerial Imagery, flown Summer 2017; NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

Figure 8
1,2-Dichlorobenzene Groundwater Concentrations
Shallow Zone
Quarter 4, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
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M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q4\Figure 9_12-Dichlorobenzene Intermediate.mxd REVISED: 02/27/2024, SCALE: 1:1,440 when printed at 11" DRAWN BY: Jake Sullivan DATE: 2/27/2024

Willamette River

MWA-49i NS
MWA-34i NS
MWA-32i NS
PA-29i NS
MWA-66i NS
MWA-51i NS
MWA-64i NS
MWA-8i NS
PA-13i NS
PA-14i NS
MWA-53i NS
PA-11i NS
PA-12i NS
PA-37i NS
PA-39i NS
MWA-54i NS
Groundwater Treatment Plant
PA-17iR ND < 0.038
PA-10i 0.22
PA-32i 0.13
PA-15i ND < 0.038
PA-16i ND < 0.038
PA-44i ND < 0.038
MWA-81i ND < 0.038
MWA-70i NS

4
6
8
10
12
14
16
18
20
22

Legend

- > 1,400 ug/L
- >= 140 - 1,400 ug/L
- >= 14 - < 140 ug/L
- < 14 ug/L
- Not Detected
- Not Sampled
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Intermediate Zone Groundwater Contours (ft NAVD88) December 2023

Notes:
Samples Collected December 10–13, 2023
All results in micrograms per liter (ug/L)
Screening Criteria for 1,2-Dichlorobenzene = 14 ug/L
See Table 4 for definition of qualifiers
ND: Non-Detect

N

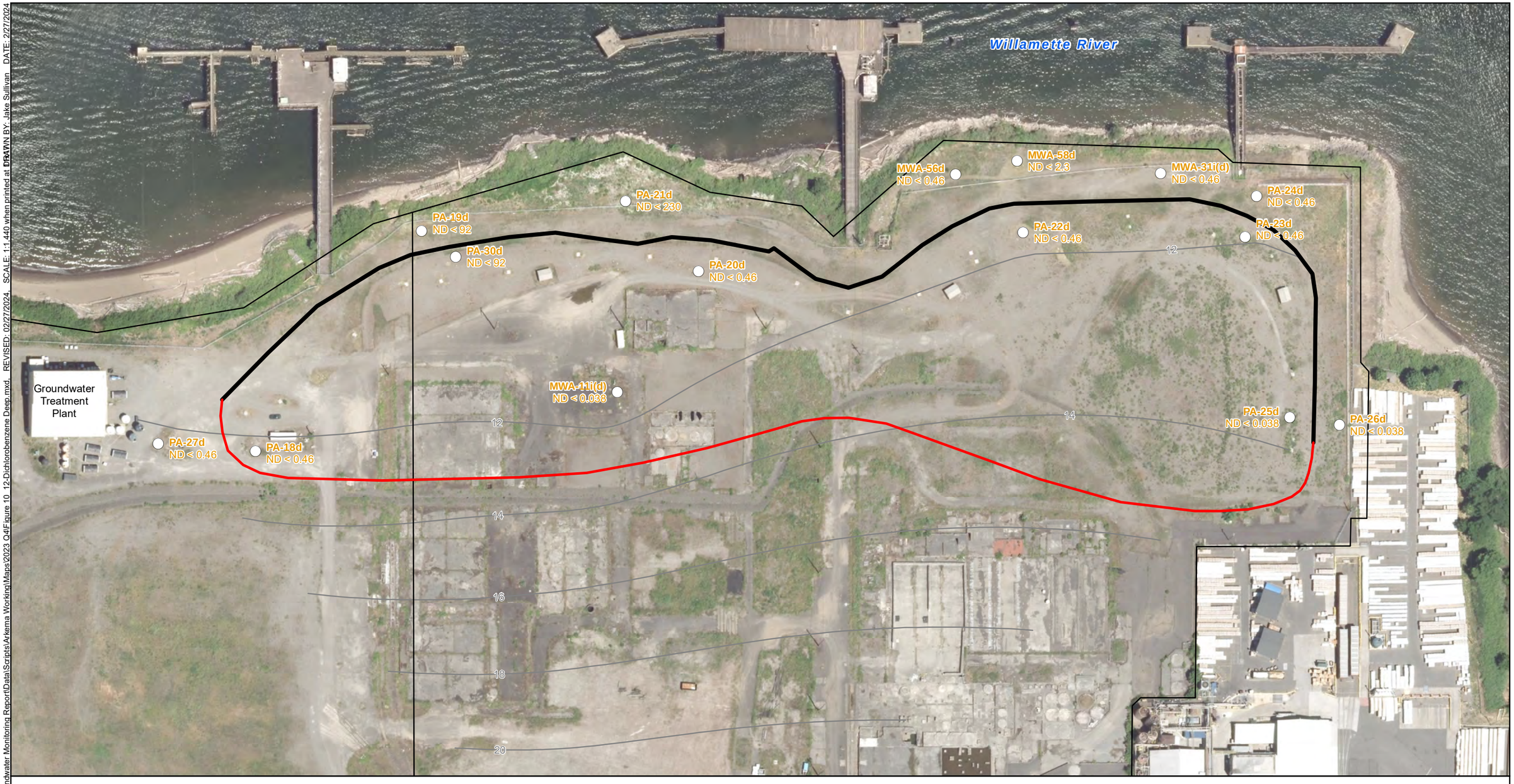
0 120 240
Feet

Source: City of Portland Aerial Imagery, flown Summer 2017; NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

Figure 9
1,2-Dichlorobenzene Groundwater Concentrations
Intermediate Zone
Quarter 4, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q4\Figure 10_12-Dichlorobenzene Deep.mxd REVISED: 02/27/2024 SCALE: 1:1,440 when printed at DRAWN BY: Jake Sullivan DATE: 2/27/2024



Legend

- > 1,400 ug/L
- >= 140 - 1,400 ug/L
- >= 14 - < 140 ug/L
- < 14 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Deep Zone Groundwater Contours (ft NAVD88) December 2023

Notes:
Samples Collected December 10–13, 2023
All results in micrograms per liter (ug/L)
Screening Criteria for 1,2-Dichlorobenzene = 14 ug/L
See Table 4 for definition of qualifiers
ND: Non-Detect

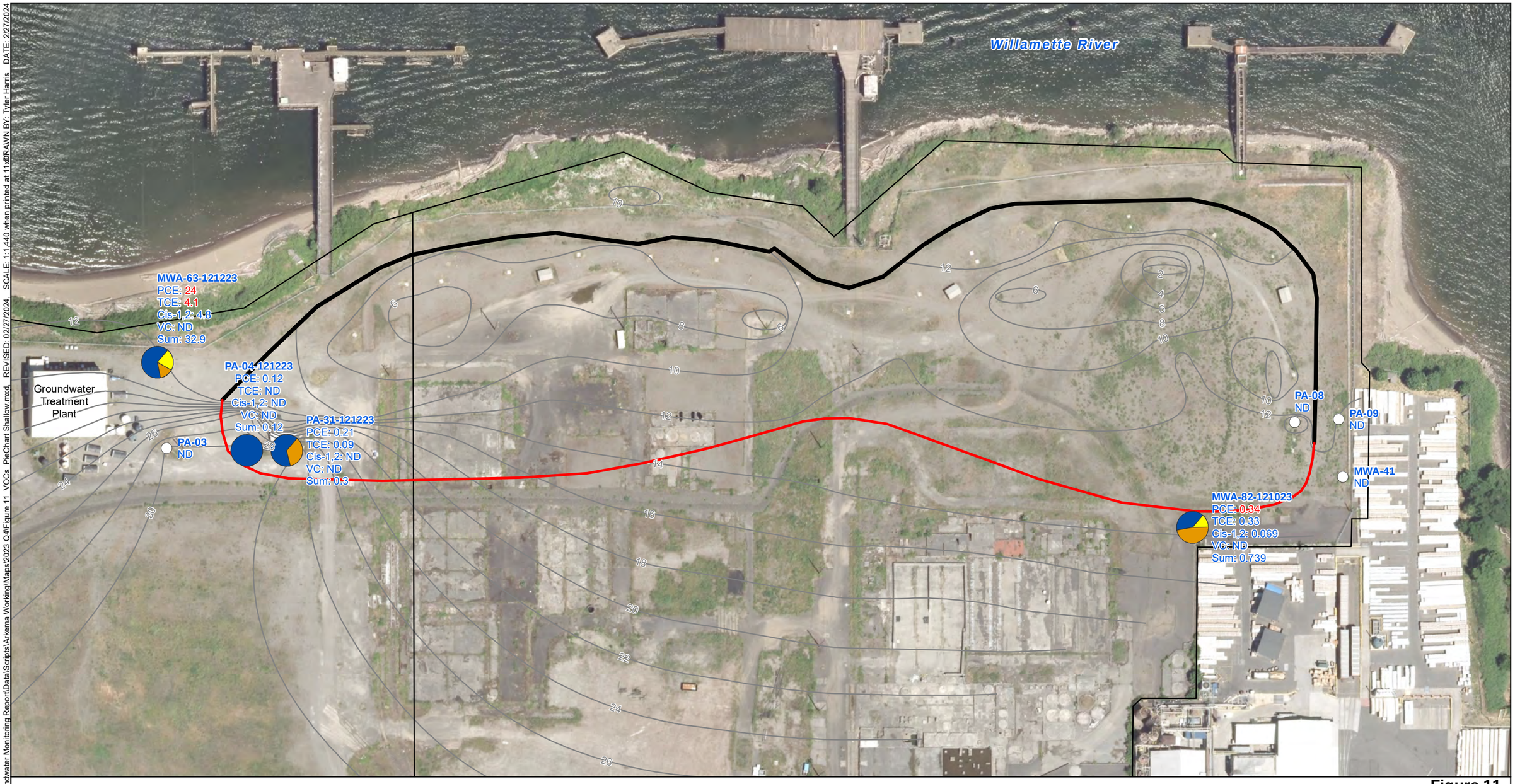
N

0 120 240
Feet

Source: City of Portland Aerial Imagery, flown Summer 2017; NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

Figure 10
1,2-Dichlorobenzene Groundwater Concentrations
Deep Zone
Quarter 4, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM



Legend

Molar Ratio

- Tetrachloroethene
- Trichloroethene
- cis-1,2-Dichloroethene
- Vinyl chloride

- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Shallow Zone Groundwater Contours (ft NAVD88) December 2023

Notes:
Samples Collected December 10–13, 2023.
All results in micrograms per liter (µg/L).
Results in red exceed screening criteria.
Screening criteria for tetrachloroethene (PCE) = 0.33 µg/L
Screening criteria for trichloroethene (TCE) = 3 µg/L
Screening criteria for cis-1,2-dichloroethene (Cis-1,2) = 590 µg/L
Screening criteria for vinyl chloride (VC) = 0.24 µg/L.
ND: Non-Detect

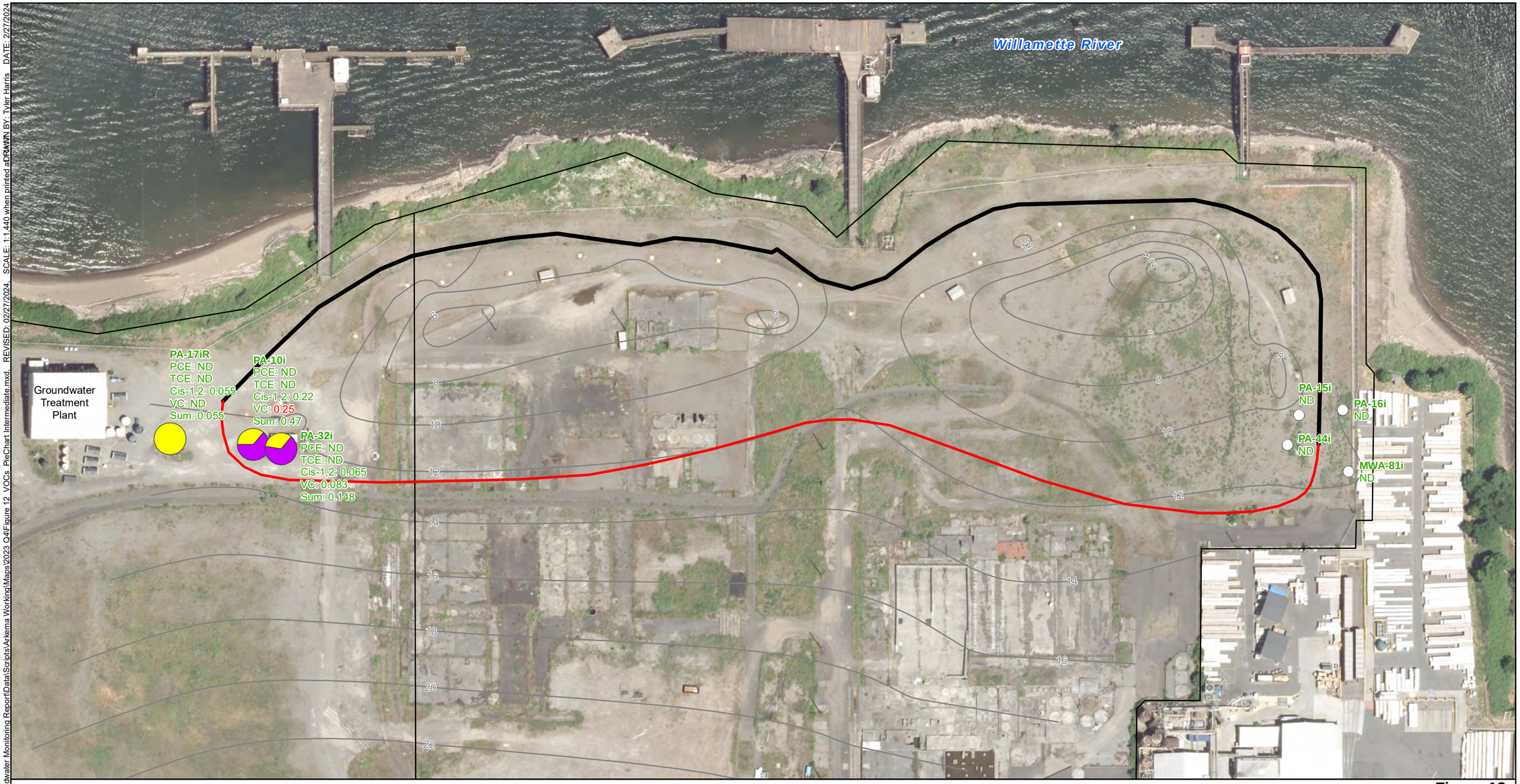
N

0 120 240
Feet

Figure 11
PCE, TCE, cis-1,2-DCE and Vinyl Chloride Groundwater Concentrations Shallow Zone
Quarter 4, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

Source: City of Portland Aerial Imagery, flown Summer 2017; NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl



Legend

Molar Ratio

- Tetrachloroethene
- Trichloroethene
- cis-1,2-Dichloroethene
- Vinyl chloride

- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Intermediate Zone Groundwater Contours (ft NAVD88) December 2023

Notes:
Samples Collected December 10–13, 2023.
All results in micrograms per liter (µg/L).
Results in red exceed screening criteria.
Screening criteria for tetrachloroethene (PCE) = 0.33 µg/L
Screening criteria for trichloroethene (TCE) = 3 µg/L
Screening criteria for cis-1,2-dichloroethene (Cis-1,2) = 590 µg/L
Screening criteria for vinyl chloride (VC) = 0.24 µg/L.
ND: Non-Detect

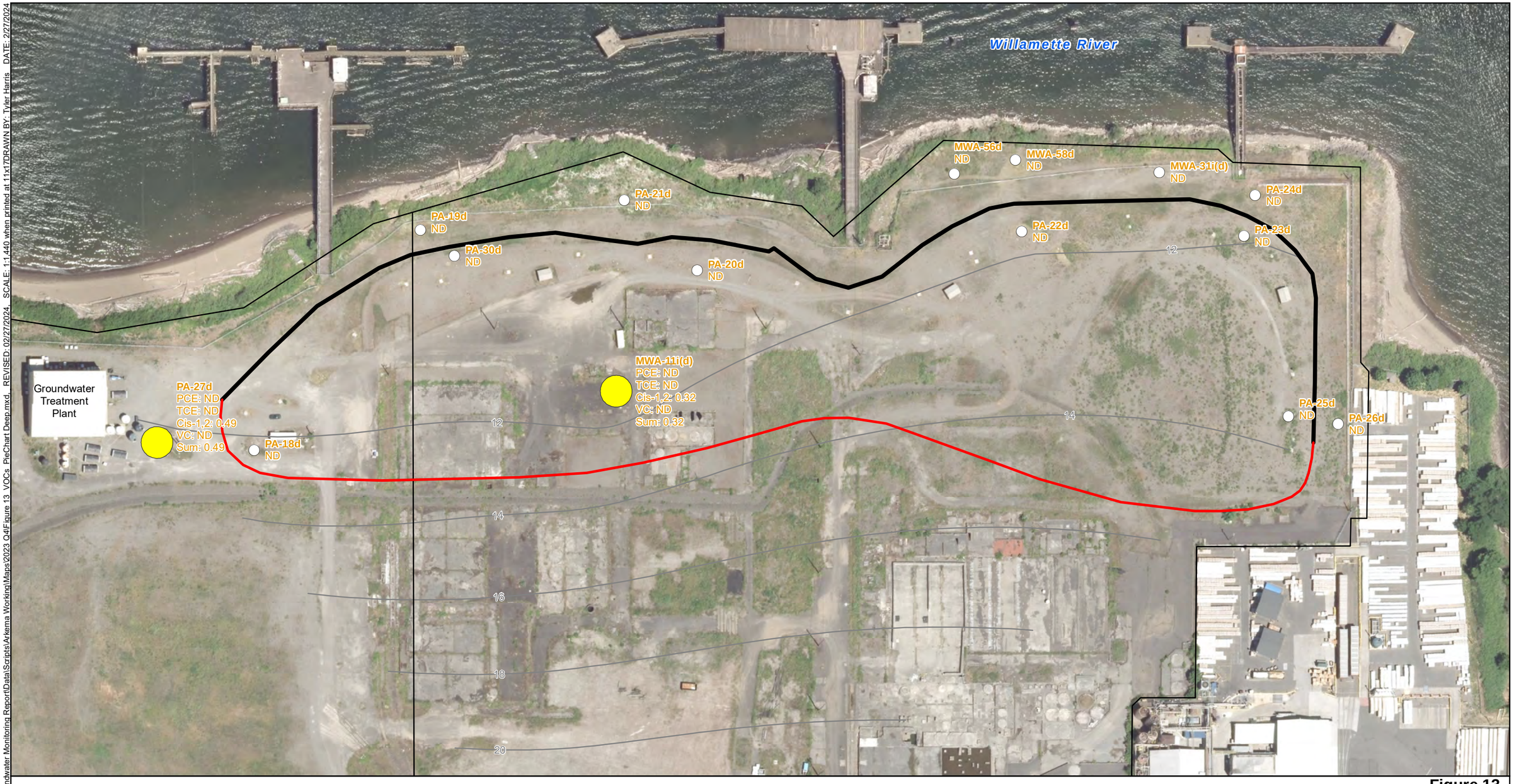
N

0 120 240
Feet

Source: City of Portland Aerial Imagery, flown Summer 2017; NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

Figure 12
PCE, TCE, cis-1,2-DCE and Vinyl Chloride Groundwater Concentrations Intermediate Zone
Quarter 4, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM



Legend

Molar Ratio

- Tetrachloroethene
- Trichloroethene
- cis-1,2-Dichloroethene
- Vinyl chloride

- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Deep Zone Groundwater Contours (ft NAVD88) December 2023

Notes:
Samples Collected December 10–13, 2023.
All results in micrograms per liter (µg/L).
Results in red exceed screening criteria.
Screening criteria for tetrachloroethene (PCE) = 0.33 µg/L
Screening criteria for trichloroethene (TCE) = 3 µg/L
Screening criteria for cis-1,2-dichloroethene (Cis-1,2) = 590 µg/L
Screening criteria for vinyl chloride (VC) = 0.24 µg/L.
ND: Non-Detect

N

0 120 240
Feet

Source: City of Portland Aerial Imagery, flown Summer 2017; NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

Figure 13
PCE, TCE, cis-1,2-DCE and Vinyl Chloride Groundwater Concentrations Deep Zone
Quarter 4, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

Willamette River

MWA-69 NS
MWA-46 NS
MWA-19 NS
MWA-30 NS
MWA-47 NS
MWA-18 NS
MWA-2 NS
MWA-61 NS
PA-28 NS
PA-07 NS
MWA-29 NS
PA-05 NS
PA-06 NS
PA-36 NS
MWA-20 NS
MWA-15r NS
MWA-42 NS
PA-38 NS
PA-42 NS
MWA-63 ND < 2.0
Groundwater Treatment Plant
PA-08 ND < 4.0
PA-09 ND < 2.0
MWA-22 NS
PA-03 ND < 4.0
PA-04 ND < 2.0
PA-31 ND < 2.0
MWA-41 ND < 2.0
MWA-24 NS
MWA-82 ND < 10
MWA-40 NS
MWA-33 NS

Legend

- > 180,000 ug/L
- >= 18,000 - 180,000 ug/L
- >= 1,800 - < 18,000 ug/L
- < 1,800 ug/L
- Not Detected
- Not Sampled
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Shallow Zone Groundwater Contours (ft NAVD88) December 2023

Notes:
Samples Collected December 10–13, 2023
All results in micrograms per liter (ug/L)
Screening Criteria for Perchlorate = 1,800 ug/L
See Table 5 for definition of qualifiers
ND: Non-Detect

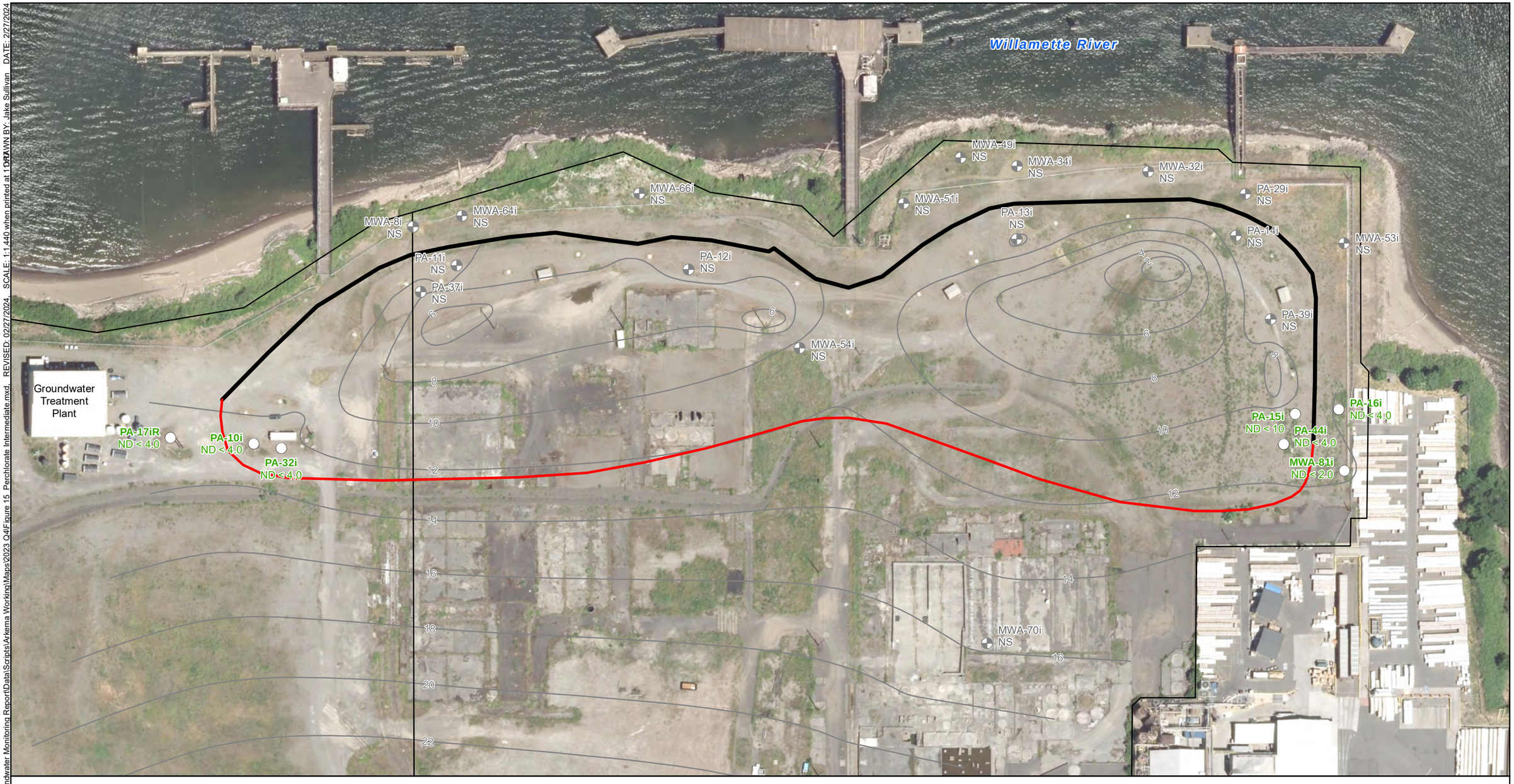
N

0 120 240
Feet

Source: City of Portland Aerial Imagery, flown Summer 2017; NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

Figure 14
Perchlorate Groundwater Concentrations
Shallow Zone
Quarter 4, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM



Legend

- > 180,000 ug/L
- >= 18,000 - 180,000 ug/L
- >= 1,800 - < 18,000 ug/L
- < 1,800 ug/L
- Not Detected
- Not Sampled
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Intermediate Zone Groundwater Contours (ft NAVD88) December 2023

Notes:
Samples Collected December 10–13, 2023
All results in micrograms per liter (ug/L)
Screening Criteria for Perchlorate = 1,800 ug/L
See Table 5 for definition of qualifiers
ND: Non-Detect

N

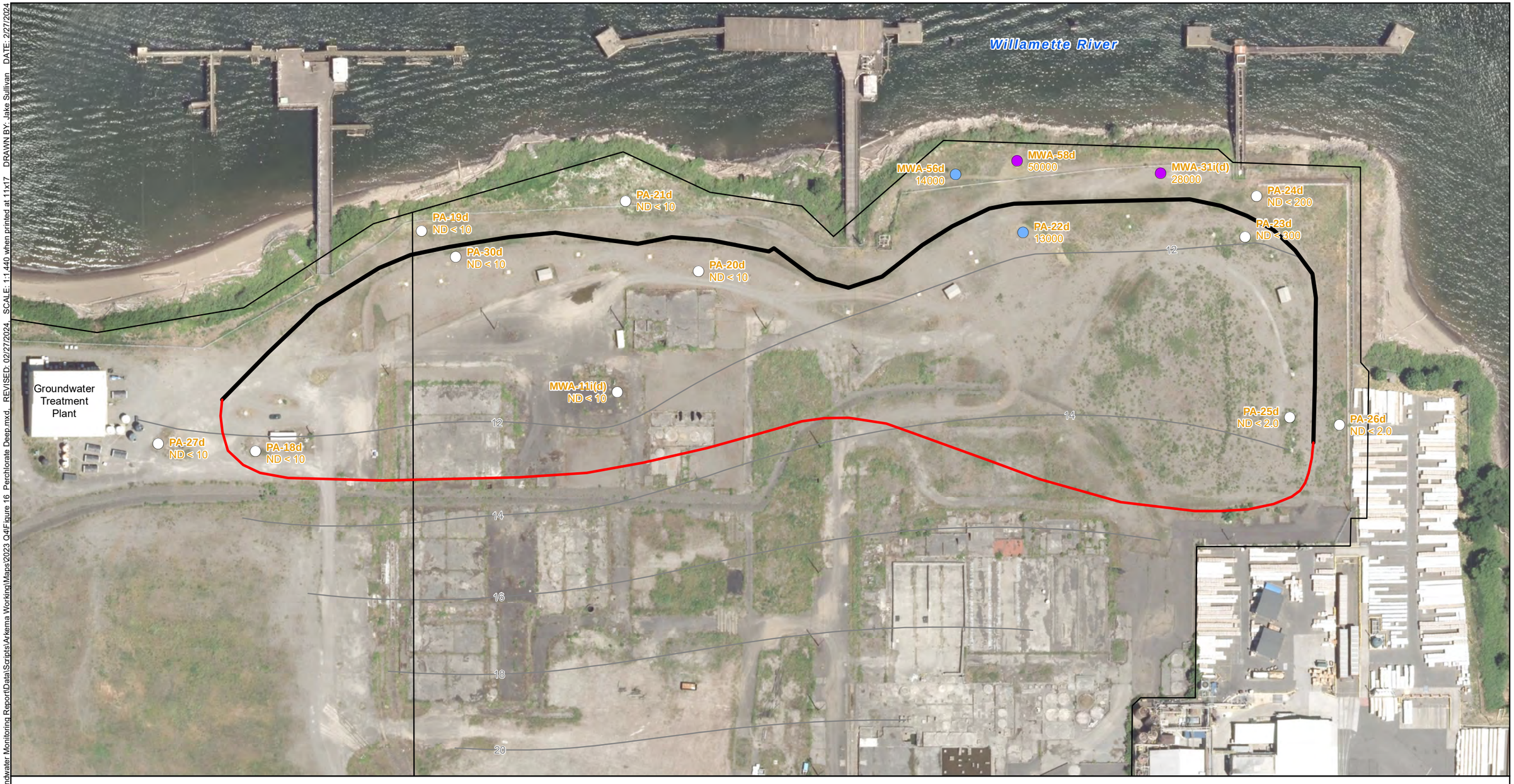
0 120 240
Feet

Figure 15
Perchlorate Groundwater Concentrations
Intermediate Zone
Quarter 4, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

Source: City of Portland Aerial Imagery, flown Summer 2017; NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

M:\USI\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q4\Figure 15_Perchlorate Intermediate.mxd REVISED: 02/27/2024 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 2/27/2024



Legend

- > 180,000 ug/L
- >= 18,000 - 180,000 ug/L
- >= 1,800 - < 18,000 ug/L
- < 1,800 ug/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Deep Zone Groundwater Contours (ft NAVD88) December 2023

Notes:
Samples Collected December 10–13, 2023
All results in micrograms per liter (ug/L)
Screening Criteria for Perchlorate = 1,800 ug/L
See Table 5 for definition of qualifiers
ND: Non-Detect

N

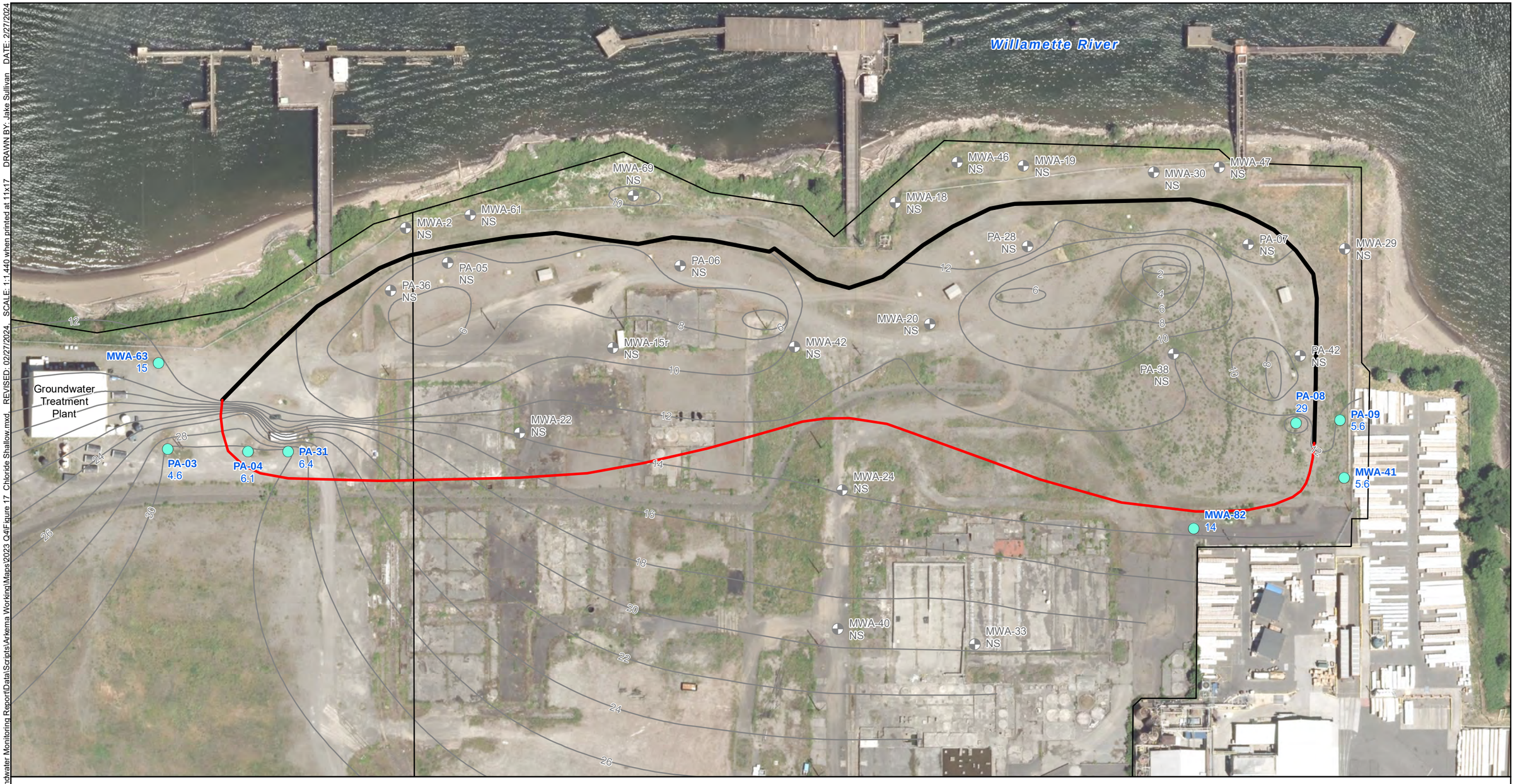
0 120 240
Feet

Figure 16
Perchlorate Groundwater Concentrations
Deep Zone
Quarter 4, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

Source: City of Portland Aerial Imagery, flown Summer 2017; NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

M:\USI\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q4\Figure 16_Perchlorate Deep.mxd REVISED: 02/27/2024 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 2/27/2024



Legend

- > 23,000 mg/L
- >= 2,300 - 23,000 mg/L
- >= 230 - < 2,300 mg/L
- < 230 mg/L
- Not Detected
- Not Sampled
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Shallow Zone Groundwater Contours (ft NAVD88) December 2023

Notes:
Samples Collected December 10–13, 2023
All results in milligrams per liter (mg/L)
Screening Criteria for Chloride = 230 mg/L
See Table 5 for definition of qualifiers

N

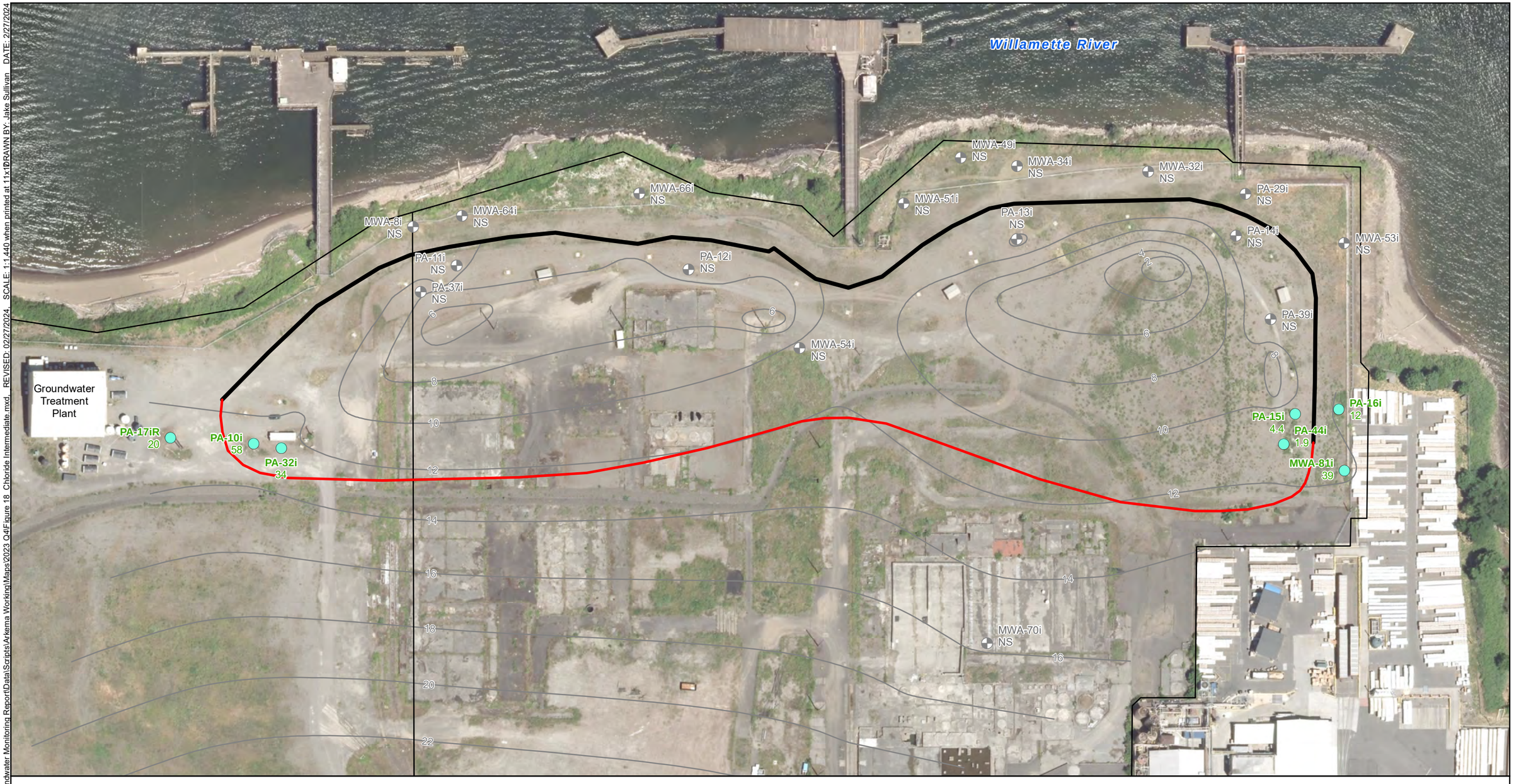
0 120 240
Feet

Figure 17
Chloride Groundwater Concentrations
Shallow Zone
Quarter 4, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

Source: City of Portland Aerial Imagery, flown Summer 2017; NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q4\Figure 17_Chloride Shallow.mxd REVISED: 02/27/2024 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 2/27/2024



Legend

- > 23,000 mg/L
- >= 2,300 - 23,000 mg/L
- >= 230 - < 2,300 mg/L
- < 230 mg/L
- Not Detected
- Not Sampled
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Intermediate Zone Groundwater Contours (ft NAVD88) December 2023

Notes:
Samples Collected December 10–13, 2023
All results in milligrams per liter (mg/L)
Screening Criteria for Chloride = 230 mg/L
See Table 5 for definition of qualifiers

N

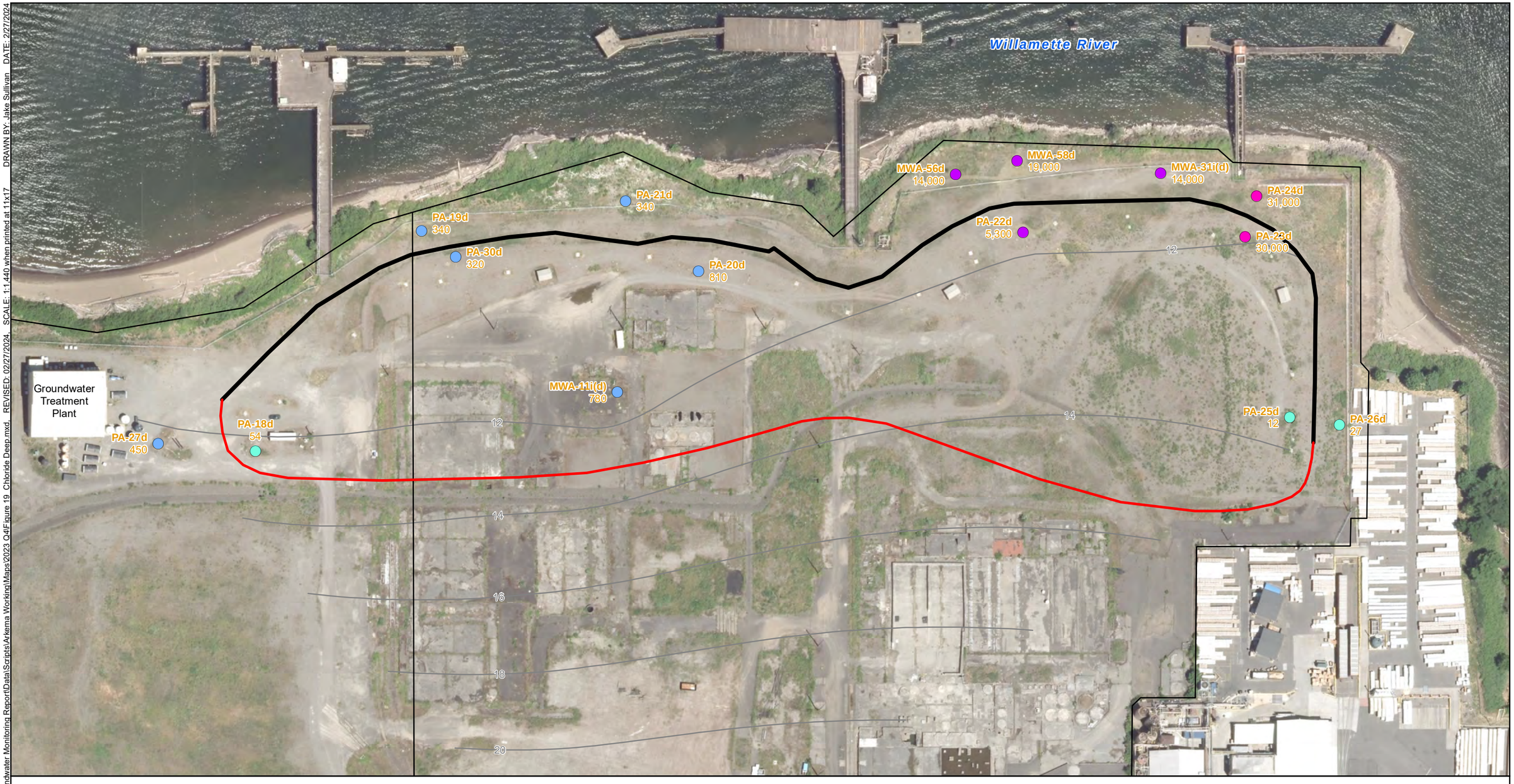
0 120 240
Feet

Figure 18
Chloride Groundwater Concentrations
Intermediate Zone
Quarter 4, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

Source: City of Portland Aerial Imagery, flown Summer 2017; NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q4\Figure 18_Chloride Intermediate.mxd REVISED: 02/27/2024 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 2/27/2024



Legend

- > 23,000 mg/L
- >= 2,300 - 23,000 mg/L
- >= 230 - < 2,300 mg/L
- < 230 mg/L
- Not Detected
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Deep Zone Groundwater Contours (ft NAVD88) December 2023

Notes:
Samples Collected December 10–13, 2023
All results in milligrams per liter (mg/L)
Screening Criteria for Chloride = 230 mg/L
See Table 5 for definition of qualifiers

N

0 120 240
Feet

Source: City of Portland Aerial Imagery, flown Summer 2017; NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

Figure 19
Chloride Groundwater Concentrations
Deep Zone
Quarter 4, 2023
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

M:\US\Projects\S-U\Total\Arkema_Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2023 Q4\Figure 19_Chloride Deep.mxd, REVISED: 02/27/2024, SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 2/27/2024

APPENDIX A FIELD FORMS

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-11I(D)
Well Permit No:

Date: 2023/12/13
Cloudy 45 degrees

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 48 (ft)	**Reference Elevation** 36.49 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 23.84 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 1.75 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10 %	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
08:44	23.95	100	0	10.7	6.69	2645	NM	3.23	-123.9	9.88	NM	
08:47	23.95	100	0.3	11.1	6.72	2729	NM	1.39	-118	7.55	NM	
08:50	23.95	100	0.6	11.6	6.74	2796	NM	1.02	-119.2	5.37	NM	
08:53	23.95	100	0.9	11.7	6.75	2821	NM	0.85	-120.3	4.29	NM	
08:56	23.95	100	1.2	11.7	6.76	2840	NM	0.73	-121	3.81	NM	
08:59	23.95	100	1.5	11.9	6.77	2859	NM	0.65	-121.5	3.7	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
MWA-11i(d)-121323	2-inch bladder pump used	Paul Van Nevel 	12/13/2023 17:19
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-26D
Well Permit No:

Date: 2023/12/11
Cloudy 50 degrees

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 80 (ft)	**Reference Elevation** 40.33 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 26.9 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 5.7 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10 %	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
09:53	28.01	100	0	13.5	6.72	99.1	NM	4.45	120.5	17.03	NM	
09:56	28.1	100	0.3	13.6	6.53	103.1	NM	2.42	112.7	14.11	NM	
09:59	28.2	100	0.6	13.8	6.49	107.8	NM	1.51	98.8	14.4	NM	
10:02	28.2	100	0.9	13.8	6.48	113.6	NM	1.1	89.7	10.72	NM	
10:05	28.24	100	1.2	13.9	6.47	118	NM	0.86	83.1	12.52	NM	
10:08	28.26	100	1.5	14.1	6.5	131.7	NM	0.74	58.9	19.17	NM	
10:11	28.28	100	1.8	13.9	6.52	147	NM	0.67	31	19.38	NM	
10:14	28.29	100	2.1	13.9	6.57	165.8	NM	0.63	-2.8	28.01	NM	
10:17	28.29	100	2.4	14.1	6.64	210	NM	0.58	-28.4	27.3	NM	
10:20	28.3	100	2.7	14	6.7	241.8	NM	0.54	-42.7	17.84	NM	
10:23	28.3	100	3	14	6.73	257.7	NM	0.52	-52.6	15.42	NM	
10:26	28.31	100	3.3	14.1	6.76	267.7	NM	0.5	-58.5	12.49	NM	
10:29	28.31	100	3.6	13.9	6.77	280.2	NM	0.49	-63.1	9.54	NM	
10:32	28.31	100	3.9	14	6.79	288.7	NM	0.47	-66.9	8.32	NM	
10:35	28.31	100	4.2	14.2	6.8	294.6	NM	0.45	-70.3	6.5	NM	
10:38	28.31	100	4.5	14	6.81	303	NM	0.44	-72.5	6.15	NM	
10:41	28.32	100	4.8	14.2	6.82	308.6	NM	0.43	-75.4	5.09	NM	
10:44	28.32	100	5.1	14	6.82	316.5	NM	0.42	-77.4	3.97	NM	
10:47	28.32	100	5.4	13.9	6.83	323.6	NM	0.41	-79.6	3.61	NM	
10:50	28.32	100	5.7	13.9	6.84	329.9	NM	0.4	-81.3	3.32	NM	

Sample ID(s): PA-26d-121123	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	Peri pump used	Paul Van Nevel 	12/11/2023 19:03

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-32I
Well Permit No:

Date: 2023/12/13
Cloudy 45 degrees

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 37.5 (ft)	**Reference Elevation** 36.28 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 22.79 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 6.3 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10 %	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
06:35	22.78	100	0	12.5	7.95	129.6	NM	8.85	14.8	8.73	NM	
06:38	22.78	100	0.3	13.1	7.75	75.9	NM	8.86	35.8	8.1	NM	
06:41	22.78	100	0.6	13.4	7.7	53.2	NM	8.85	49.1	8.08	NM	
06:44	22.79	100	0.9	13.5	7.67	55.8	NM	8.72	55.9	9.67	NM	
06:47	22.79	100	1.2	13.6	7.61	75.4	NM	8.39	59.5	8.26	NM	
06:50	22.75	100	1.5	13.5	7.53	142.9	NM	7.26	61.2	9.55	NM	
06:53	22.78	100	1.8	13.6	7.51	228.8	NM	4.45	62.4	8.91	NM	
06:56	22.78	100	2.1	13.6	7.52	270.7	NM	2.46	58.8	9	NM	
06:59	22.78	100	2.4	13.7	7.48	293.5	NM	1.59	53.5	9.49	NM	
07:02	22.77	100	2.7	13.7	7.46	303.1	NM	1.23	47.6	9.97	NM	
07:05	22.77	100	3	13.7	7.44	309.9	NM	1.03	41.7	10.78	NM	
07:08	22.77	100	3.3	13.7	7.42	323.7	NM	0.92	31.2	11.43	NM	
07:11	22.77	100	3.6	13.7	7.39	338.8	NM	0.79	12.1	12.04	NM	
07:14	22.77	100	3.9	13.7	7.36	356.7	NM	0.67	-11.5	13.26	NM	
07:17	22.77	100	4.2	13.8	7.34	369.9	NM	0.56	-34.8	13.28	NM	
07:20	22.77	100	4.5	13.7	7.33	380.2	NM	0.5	-53.5	13.82	NM	
07:23	22.77	100	4.8	13.7	7.31	407.8	NM	0.42	-68.5	13.13	NM	
07:26	22.77	100	5.1	13.8	7.3	433.9	NM	0.38	-82.2	12.42	NM	
07:29	22.77	100	5.4	13.9	7.29	452	NM	0.34	-92.2	12.3	NM	
07:32	22.77	100	5.7	13.7	7.29	465.9	NM	0.31	-99.1	12	NM	
07:35	22.77	100	6	13.5	7.29	477	NM	0.29	-104.5	12.01	NM	
07:38	22.77	100	6.3	13.5	7.29	489	NM	0.27	-108	11.93	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
DUP-02-121323,PA-32i-121323	2-inch bladder pump used	Paul Van Nevel 	12/13/2023 15:53
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-03
Well Permit No:

Date: 2023/12/11
Cloudy 55 degrees

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 24 (ft)	**Reference Elevation** 37.1 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 6.55 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 2.7 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10 %	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
11:57	6.71	100	0	15.3	10.51	766	NM	1.92	-208.5	48.96	NM	
12:00	6.88	100	0.3	15	10.49	800	NM	1.07	-222.4	84.5	NM	
12:03	6.87	100	0.6	15	10.48	803	NM	0.69	-225.2	84.1	NM	
12:06	6.87	100	0.9	14.9	10.5	795	NM	0.54	-221.2	80.22	NM	
12:09	6.93	100	1.2	15	10.49	789	NM	0.46	-221.2	66.55	NM	
12:12	6.98	100	1.5	15.1	10.48	789	NM	0.41	-223.6	56.97	NM	
12:15	7	100	1.8	15.2	10.46	793	NM	0.36	-228	48.11	NM	
12:18	7.04	100	2.1	15.2	10.45	797	NM	0.32	-231.2	43.02	NM	
12:21	7.06	100	2.4	15.2	10.45	799	NM	0.29	-232.8	45.98	NM	
12:24	7.09	100	2.7	15.1	10.44	801	NM	0.27	-235.3	44.35	NM	

Sample ID(s): PA-03-121123	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	Peri pump used	Paul Van Nevel 	12/11/2023 20:38

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-04
Well Permit No:

Date: 2023/12/12
Foggy 40 degrees

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 25.5 (ft)	**Reference Elevation** 36.67 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 5.82 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 95 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 2.7 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10 %	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
07:47	5.75	50	0	11.1	9.91	759	NM	2.84	123	1333.6	NM	
07:50	5.8	100	0.3	12.4	9.9	753	NM	1.35	-126.2	1891.1	NM	
07:53	5.8	100	0.6	12.8	9.88	753	NM	0.86	-127.6	94.99	NM	
07:56	5.8	100	0.9	13.2	9.87	750	NM	0.64	-128.3	63.57	NM	
07:59	5.81	100	1.2	13.4	9.86	753	NM	0.53	-128.6	45	NM	
08:02	5.81	100	1.5	12.9	9.87	755	NM	0.47	-128	41.14	NM	
08:05	5.82	100	1.8	13.1	9.87	751	NM	0.42	-127.7	36.9	NM	
08:08	5.84	100	2.1	13.3	9.86	749	NM	0.38	-127.5	30.52	NM	
08:11	5.85	100	2.4	13.1	9.86	752	NM	0.36	-126.8	30.44	NM	
08:14	5.87	100	2.7	13.1	9.87	749	NM	0.34	-126.3	33.42	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
PA-04-121223	Peri pump used	Paul Van Nevel 	12/12/2023 16:35
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-09
Well Permit No:

Date: 2023/12/11
Cloudy 50 degrees

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 29 (ft)	**Reference Elevation** 40.24 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 27.65 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 3.6 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10 %	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
08:28	27.35	100	0	13.6	7.31	94.6	NM	5.88	106.4	34.4	NM	
08:31	27.7	100	0.3	13.4	7.14	95.5	NM	5.61	113.2	27.13	NM	
08:34	27.7	100	0.6	14	6.99	113.9	NM	3.79	117.2	12.35	NM	
08:37	27.7	100	0.9	14.2	6.93	149.3	NM	3.18	118.7	9.33	NM	
08:40	27.7	100	1.2	14.3	6.93	170.9	NM	2.94	117.7	8.31	NM	
08:43	27.7	100	1.5	14.4	6.91	190.8	NM	2.63	117.7	7.32	NM	
08:46	27.7	100	1.8	14.4	6.9	204.9	NM	2.38	117.5	6.57	NM	
08:49	27.7	100	2.1	14.4	6.9	221.5	NM	2.12	117.6	6.47	NM	
08:52	27.7	100	2.4	14.4	6.89	238.6	NM	1.86	117.6	6.17	NM	
08:55	27.7	100	2.7	14.4	6.88	248.4	NM	1.7	117.4	5.95	NM	
08:58	27.7	100	3	14.4	6.9	264.4	NM	1.45	92.1	6.4	NM	YSI shut itself off between readings
09:01	27.7	100	3.3	14.5	6.87	269.1	NM	1.37	96.9	6.17	NM	
09:04	27.7	100	3.6	14.5	6.87	276.9	NM	1.24	100.5	5.96	NM	

Sample ID(s): PA-09-121123	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	Peri pump used	Paul Van Nevel 	12/11/2023 17:16

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-10I
Well Permit No:

Date: 2023/12/12
Clear 45 degrees

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 35 (ft)	**Reference Elevation** 36.67 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 23.13 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 5.9 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10 %	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
09:02	23.2	100	0	12.2	7.58	794	NM	1.74	-111.7	3346.3	NM	
09:05	23.21	100	0.3	12.9	7.57	827	NM	1.05	-130.1	116.18	NM	
09:08	23.22	100	0.6	13.3	7.56	845	NM	0.67	-146.3	74.55	NM	
09:11	23.22	100	0.9	13.6	7.55	863	NM	0.51	-157.6	53.28	NM	
09:14	23.22	100	1.2	13.8	7.55	875	NM	0.4	-163.9	29.81	NM	
09:17	23.22	100	1.5	13.6	7.55	896	NM	0.36	-171.7	28.86	NM	
09:20	23.22	100	1.8	13.4	7.56	907	NM	0.3	-175.8	17.23	NM	
09:23	23.22	100	2.1	13.5	7.56	906	NM	0.27	-177.8	17.44	NM	
09:26	23.22	100	2.4	13.5	7.56	906	NM	0.26	-173.6	16.62	NM	
09:29	23.22	100	2.7	13.6	7.56	906	NM	0.25	-178.9	11.92	NM	
09:32	23.22	100	3	13.7	7.56	908	NM	0.24	-180.9	13.48	NM	
09:35	23.22	100	3.3	13.6	7.56	910	NM	0.23	-181.6	18.23	NM	
09:38	23.22	100	3.6	13.9	7.56	908	NM	0.23	-182.6	11.24	NM	
09:41	23.22	100	3.9	14.1	7.55	909	NM	0.22	-183	9.95	NM	
09:44	23.22	100	4.2	14.1	7.55	912	NM	0.22	-183.3	8.45	NM	
09:47	23.23	100	4.5	14.1	7.55	914	NM	0.21	-183.3	9.57	NM	
09:50	23.23	100	4.8	14.2	7.55	913	NM	0.21	-184	6.31	NM	
09:53	23.23	100	5.1	14.2	7.55	914	NM	0.2	-184.5	7.87	NM	
09:56	23.25	100	5.4	14.4	7.55	912	NM	0.2	-185	6.35	NM	
09:59	23.25	100	5.7	14.4	7.55	915	NM	0.19	-185.7	7.33	NM	

Sample ID(s): PA-10i-121223	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	Peri pump used	Paul Van Nevel 	12/12/2023 18:19

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-16I
Well Permit No:

Date: 2023/12/11
Cloudy 50 degrees

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 43.25 (ft)	**Reference Elevation** 40.3 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 27.91 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 3.6 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10 %	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
06:55	28.35	100	0	14.2	7.22	88.4	70	4.76	135.4	28.99	NM	
06:58	28.4	100	0.3	14.3	6.75	89.6	71.3	2.38	140.7	17.25	NM	
07:01	28.4	100	0.6	14.5	6.75	91.9	73.4	1.41	134	15.36	NM	
07:04	28.4	100	0.9	14.5	6.78	94.1	75.1	1	126.7	14.25	NM	
07:07	28.4	100	1.2	14.5	6.81	96.8	77.3	0.76	120.9	20.07	NM	
07:10	28.4	100	1.5	14.6	6.85	99.6	79.7	0.65	115.4	29.62	NM	
07:13	28.4	100	1.8	14.5	6.89	104	83.1	0.57	110.2	35.7	NM	
07:16	28.4	100	2.1	14.5	6.93	108.9	86.9	0.52	106.7	47.77	NM	
07:19	28.42	100	2.4	14.5	6.96	116	92.5	0.49	102.7	55.8	NM	
07:22	28.42	100	2.7	14.4	6.97	122.9	97.9	0.46	100.2	62.13	NM	
07:25	28.42	100	3	14.4	6.98	129.4	103	0.45	97.3	66.8	NM	
07:28	28.42	100	3.3	14.4	6.99	137.8	109.6	0.43	94.3	73.41	NM	
07:31	28.42	100	3.6	14.4	6.98	147.7	117.6	0.42	91.3	78.5	NM	

Sample ID(s): PA-16i-121123	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	Peri pump used	Paul Van nevel 	12/11/2023 16:13

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-17IR
Well Permit No:

Date: 2023/12/11
Cloudy 55 degrees

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 40 (ft)	**Reference Elevation** 37.59 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 24.9 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 78.6 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - (ft)
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 3 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10 %	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
13:08	25.25	100	0	14.3	7.55	204.5	NM	3.98	-106.7	16.89	NM	
13:11	25.56	100	0.3	14.3	6.29	130.1	NM	1.41	-66.1	13.33	NM	
13:14	25.8	100	0.6	14.3	6.15	98.7	NM	0.86	-61.9	11.33	NM	
13:17	25.83	100	0.9	14.3	6.14	84.1	NM	0.73	-70.5	8.31	NM	
13:20	25.95	100	1.2	14.3	6.14	72.2	NM	0.63	-84	9.71	NM	
13:23	26.01	100	1.5	14.3	6.24	70.6	NM	0.54	-103.8	9.61	NM	
13:26	26.1	100	1.8	14.4	6.7	118.6	NM	0.48	-140.5	7.55	NM	
13:29	26.15	100	2.1	14.2	7.05	201.1	NM	0.42	-170	9.42	NM	
13:32	26.25	50	2.25	14.2	7.6	292.5	NM	0.35	-195.9	7.88	NM	
13:35	26.29	50	2.4	14.2	8.32	364.7	NM	0.28	-226.6	6.92	NM	
13:38	26.31	50	2.55	14.1	8.89	433.2	NM	0.24	-242	6.81	NM	
13:41	26.36	50	2.7	14.1	9.09	486.7	NM	0.22	-242.1	7.52	NM	
13:44	26.39	50	2.85	14.1	9.16	513	NM	0.21	-240.6	7.65	NM	
13:47	26.4	50	3	14.1	9.25	558	NM	0.2	-239.5	7.19	NM	

Sample ID(s): PA-17iR-121123	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	Peri pump used	Paul Van Nevel 	12/11/2023 22:03

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-18D
Well Permit No:

Date: 2023/12/12
Clear 55 degrees

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 42.5 (ft)	**Reference Elevation** 36.55 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 23.95 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 50 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 2.4 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10 %	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
11:04	26.2	50	0	14.4	8.63	1112	NM	1.87	51.9	8.41	NM	
11:07	26.38	50	0.15	13.8	8.64	1132	NM	1.07	-63.3	9.24	NM	
11:10	26.35	50	0.3	13.9	8.7	1127	NM	0.79	-74.7	10.58	NM	
11:13	26.35	50	0.45	13.9	8.73	1130	NM	0.67	-84.3	14.41	NM	
11:16	26.43	50	0.6	14.1	8.75	1129	NM	0.57	-92.6	13.29	NM	
11:19	26.39	50	0.75	13.8	8.77	1132	NM	0.44	-100.8	10.66	NM	
11:22	26.35	50	0.9	13.8	8.78	1131	NM	0.38	-113.3	9.22	NM	
11:25	26.29	50	1.05	13.8	8.79	1133	NM	0.33	-122.5	9.45	NM	
11:28	26.32	50	1.2	13.6	8.79	1134	NM	0.3	-128.7	8.33	NM	
11:31	26.41	50	1.35	13.7	8.8	1131	NM	0.25	-138.8	8.82	NM	
11:34	26.52	50	1.5	13.8	8.8	1131	NM	0.23	-150.3	10.84	NM	
11:37	26.55	50	1.65	13.8	8.81	1132	NM	0.21	-163.2	16.44	NM	
11:40	26.55	50	1.8	13.9	8.81	1132	NM	0.2	-169.7	21.32	NM	
11:43	26.6	50	1.95	13.8	8.82	1134	NM	0.19	-176.6	27.41	NM	
11:46	26.63	50	2.1	13.7	8.82	1135	NM	0.19	-180	30.97	NM	
11:49	26.63	50	2.25	13.7	8.83	1133	NM	0.18	-184.9	33.78	NM	
11:52	26.65	50	2.4	13.7	8.84	1133	NM	0.18	-186	33.91	NM	

Sample ID(s): PA-18d-121223	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	Peri pump used	Paul Van Nevel 	12/12/2023 20:16

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-27D
Well Permit No:

Date: 2023/12/12
Foggy, 40 degrees

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 46 (ft)	**Reference Elevation** 37.1 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 24.4 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 61.1 (mL/min)	**Well Diameter / Well Screen Interval** 1 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 1.5 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10 %	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
06:41	26.45	100	0	11.4	7.25	2348	NM	4.16	-164.1	8.18	NM	
06:44	26.63	100	0.3	11.6	7.15	2460	NM	1.33	-173.9	7.48	NM	
06:47	26.41	50	0.45	11.6	7.15	2511	NM	0.82	-178	6.36	NM	
06:50	26.45	50	0.6	11.2	7.17	2526	NM	0.62	-172.7	6.92	NM	
06:53	26.25	50	0.75	11.1	7.18	2511	NM	0.54	-162.4	8.07	NM	
06:56	26.15	50	0.9	11	7.19	2467	NM	0.5	-158.6	9.17	NM	
06:59	26.22	50	1.05	11.1	7.2	2420	NM	0.46	-152	10.7	NM	
07:02	26.28	50	1.2	11.1	7.21	2397	NM	0.42	-154.3	11.32	NM	
07:05	26.27	50	1.35	11.1	7.21	2382	NM	0.4	-149.3	11.19	NM	

Sample ID(s): PA-27d-121223	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	Peri pump used	Paul Van Nevel 	12/12/2023 15:23

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-31
Well Permit No:

Date: 2023/12/12
Clear 55 degrees

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 22 (ft)	**Reference Elevation** 36.25 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 5.38 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** 2 (in) / - ()
Sampler paul vannevel	**Volume of Water in Well / Total Volume Purged** () / 3.9 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10 %	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
13:02	5.51	100	0	15.3	9.42	367.7	NM	8.69	-26.9	10.34	NM	
13:05	5.52	100	0.3	15.5	9.48	617	NM	3.35	-36.2	29.04	NM	
13:08	5.58	100	0.6	15.3	9.5	697	NM	1.68	-43.1	112.59	NM	
13:11	5.6	100	0.9	15.5	9.5	720	NM	1.26	-47.1	2138	NM	
13:14	5.57	100	1.2	15.4	9.5	676	NM	1.45	-47.3	1817.5	NM	
13:17	5.56	100	1.5	15.4	9.5	723	NM	1.27	-49.7	113.89	NM	
13:20	5.56	100	1.8	15.3	9.51	745	NM	0.82	-52	106.36	NM	
13:23	5.59	100	2.1	15.3	9.51	754	NM	0.64	-53.7	92.35	NM	
13:26	5.58	100	2.4	15.4	9.5	758	NM	0.54	-55.2	87.52	NM	
13:29	5.58	100	2.7	15.3	9.5	762	NM	0.48	-56.7	74.91	NM	
13:32	5.59	100	3	15.4	9.5	764	NM	0.44	-57.9	71.45	NM	
13:35	5.59	100	3.3	15.4	9.5	765	NM	0.41	-59.1	63.9	NM	
13:38	5.59	100	3.6	15.3	9.5	767	NM	0.38	-60.1	58.1	NM	
13:41	5.59	100	3.9	15.4	9.5	771	NM	0.37	-61.2	55.48	NM	

Sample ID(s): PA-31-121223	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	2-inch bladder pump used	Paul Van Nevel 	12/12/2023 22:25

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-31I(D)
Well Permit No:

Date: 2023/12/11
Cool cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 57 (ft)	**Reference Elevation** 38.36 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 27.2 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 0 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 160 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
11:04	27.25	160		16.8	6.78	42890	NM	2.35	3.4	4.54	NM	
11:07	27.25	160		16.9	6.77	45202	NM	1.09	7.6	3.39	NM	
11:10	27.25	160		17	6.75	45675	NM	0.9	14.3	3.29	NM	
11:13	27.25	160		17.2	6.75	45773	NM	0.87	15.8	2.91	NM	
11:16	27.25	160		17.3	6.74	46033	NM	0.75	17.9	3.03	NM	
11:19	27.25	160	2.88	17.1	6.73	46318	NM	0.7	20.1	3.05	NM	

Sample ID(s):	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
MWA-31i(d)-121123	2 pump	ST 	12/11/2023 19:31
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-41
Well Permit No:

Date: 2023/12/10
Cool cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 37 (ft)	**Reference Elevation** 45.14 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 32.75 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 160 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 2.88 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
09:34	23.75	160		14.5	6.82	328.4	NM	1.94	22.9	15	NM	
09:37	32.75	160		13.8	6.74	321	NM	1.05	28.1	11.71	NM	
09:40	32.75	160		13.8	6.71	316.1	NM	0.96	31.2	8.32	NM	
09:43	32.75	160		13.9	6.7	315.9	NM	0.88	33.5	8.61	NM	
09:46	32.75	160	2.88	13.8	6.69	316.2	NM	0.8	35.1	8.51	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
MWA-41-121023	2 pump	ST 	12/10/2023 17:48
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-56D
Well Permit No:

Date: 2023/12/12
Cool clear

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 57 (ft)	**Reference Elevation** 36.68 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 24.9 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 160 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 3.08 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
07:00	24.95	160		13.1	6.65	37833	NM	2.94	94.1	3.36	NM	
07:03	24.97	160		13.2	6.55	38521	NM	1.23	93.7	2.95	NM	
07:06	25	160		13.3	6.55	38769	NM	0.74	92.1	2.77	NM	
07:09	25	160		13.5	6.56	39006	NM	0.59	91	2.63	NM	
07:12	25	160		13.5	6.57	39329	NM	0.53	90.4	2.58	NM	
07:15	25	160	3.08	13.4	6.57	39445	NM	0.48	90	2.65	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
DUP-01-121223,MWA-56d-121223	2 pump	ST 	12/12/2023 15:19
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-58D
Well Permit No:

Date: 2023/12/12
Cool clear

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 58 (ft)	**Reference Elevation** 37.97 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 26.45 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 160 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 3.08 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
07:50	26.55	160		12.8	6.77	50683	NM	2.62	94.9	3.2	NM	
07:53	26.6	160		12.9	6.67	51230	NM	0.91	93.5	3.09	NM	
07:56	26.6	160		12.8	6.64	51219	NM	0.63	91.5	3.77	NM	
07:59	26.6	160		12.9	6.63	51212	NM	0.6	89.1	3.82	NM	
08:02	26.6	160	3.08	12.8	6.62	51210	NM	0.52	87.9	3.61	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
MWA-58d-121223	2 pump	ST 	12/12/2023 16:05
Analysis:			

Low Flow Groundwater Sampling Field Data Form	Well ID: MWA-63 Well Permit No:	Date: 2023/12/12 Cool cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 25 (ft)	**Reference Elevation** 36.29 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 19.6 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 160 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 2.88 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
10:14	19.75	160		14.4	7.74	1297	NM	6.84	25.4	22.83	NM	
10:17	19.75	160		14.2	7.26	685	NM	6.47	37.7	12.56	NM	
10:20	19.75	160		14.1	7.19	634	NM	6.31	39.1	8.56	NM	
10:23	19.75	160		14.1	7.14	622	NM	6.24	39.6	6.22	NM	
10:26	19.75	160		14.2	7.12	613	NM	6.18	39.9	5.33	NM	
10:29	19.75	160	2.88	14.2	7.11	598	NM	6.03	40.1	4.61	NM	

Sample ID(s):	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
MWA-63-121223	Peri pump	ST 	12/12/2023 18:31
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-81I
Well Permit No:

Date: 2023/12/10
Cool raining

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 48 (ft)	**Reference Elevation** 44.62 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 33 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 160 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 2.88 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
09:01	33.05	160		14	6.93	573	NM	3.46	84.4	8.67	NM	
09:04	33.05	160		14	6.63	588	NM	1.74	70.4	5.72	NM	
09:07	33.05	160		14.2	6.57	595	NM	0.92	52.1	4.77	NM	
09:10	33.05	160		14.3	6.56	598	NM	0.85	40.1	4.98	NM	
09:13	33.05	160		14.3	6.55	598	NM	0.82	36.8	4.83	NM	
09:16	33.05	160	2.88	14.3	6.55	598	NM	0.78	34.5	4.13	NM	

Sample ID(s): MWA-81i-121023	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	2 pump	ST 	12/10/2023 17:18

Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-82
Well Permit No:

Date: 2023/12/10
Cool raining

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 29 (ft)	**Reference Elevation** 37.74 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 24.75 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 160 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 2.88 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
08:16	24.8	160		14.1	9.16	527	NM	2.28	3.6	23.86	NM	
08:19	24.8	160		14.3	9.2	529	NM	1.24	3.8	14.93	NM	
08:22	24.8	160		14.2	9.2	530	NM	0.78	5.1	12.21	NM	
08:25	24.8	160		14.2	9.19	531	NM	0.8	5.7	15.36	NM	
08:28	24.8	160		14.1	9.19	530	NM	0.73	5.9	16.62	NM	
08:31	24.8	160	2.88	14.1	9.2	530	NM	0.77	5.7	14.78	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
MWA-82-121023	2 pump	ST 	12/10/2023 16:33
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-19D
Well Permit No:

Date: 2023/12/13
Cool clear

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 47 (ft)	**Reference Elevation** 36.65 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 25.92 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 1.93 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
06:24	27.85	100		13	7.11	3068	NM	2.92	-13.8	5.77	NM	
06:27	29.1	100		13	7.1	3062	NM	1.53	-37.9	5	NM	
06:30	29.75	100		12.8	7.1	3057	NM	1.86	-45.3	5.36	NM	
06:33	30.24	100		12.9	7.11	3052	NM	1.88	-47.2	5.21	NM	
06:36	30.32	100		12.9	7.11	3048	NM	1.82	-49.2	5.31	NM	
06:39	30.4	100	1.93	12.9	7.12	3037	NM	1.75	-52.2	5.06	NM	

Sample ID(s): PA-19d-121323	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	1 pump	ST 	12/13/2023 14:41

Low Flow Groundwater Sampling Field Data Form	Well ID: PA-20D Well Permit No:	Date: 2023/12/12 Cool clear

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 60 (ft)	**Reference Elevation** 37.91 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 27.46 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 2 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
11:06	29.8	100		13.5	6.59	3836	NM	3.63	-17.8	3.76	NM	
11:09	30.6	100		13.9	6.58	3912	NM	2.13	-38.5	3.75	NM	
11:12	30.95	100		14.2	6.59	3932	NM	2.45	-39	4.12	NM	
11:15	31.12	100		14	6.6	3957	NM	2.52	-42.8	4.28	NM	
11:18	31.1	100	2	13.9	6.61	3940	NM	2.64	-46.3	3.97	NM	

Sample ID(s):	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
PA-20d-121223	1 pump	ST	12/12/2023 19:21
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-21D
Well Permit No:

Date: 2023/12/12
Cool clear

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 53 (ft)	**Reference Elevation** 34.36 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 23.82 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 1.68 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
12:00	25.68	100		15.8	6.37	3629	NM	3.12	-23.1	6.44	NM	
12:03	25.93	100		16	6.27	3635	NM	1.91	-20.1	5.45	NM	
12:06	26.03	100		16.2	6.23	3647	NM	1.72	-20.6	4.91	NM	
12:09	26.1	100		16.2	6.2	3652	NM	1.67	-22.1	5.07	NM	
12:12	26.16	100	1.68	16.1	6.19	3669	NM	1.61	-23.9	4.94	NM	

Sample ID(s): PA-21d-121223	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	1 pump	ST 	12/12/2023 20:15

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-22D
Well Permit No:

Date: 2023/12/12
Cool cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 60 (ft)	**Reference Elevation** 38.75 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 26.18 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 120 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 2.36 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
08:50	26.45	120		12	7.33	14823	NM	3.29	59.3	5.16	NM	
08:53	26.5	120		12.1	7.24	14288	NM	2.37	59.1	3.93	NM	
08:56	26.5	160		12.7	7.19	14182	NM	1.46	57.9	3.8	NM	
08:59	26.6	120		13	7.16	14783	NM	1.06	57.3	4.05	NM	
09:02	26.5	120		12.9	7.14	15694	NM	0.98	56.8	3.79	NM	
09:05	26.5	120	2.36	13	7.13	16191	NM	0.94	56.2	3.36	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
PA-22d-121223	1 pump. RB-01-121223 taken before purging	ST 	12/12/2023 17:08
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-23D
Well Permit No:

Date: 2023/12/11
Cool cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 80 (ft)	**Reference Elevation** 39.31 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 27 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 120 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 3.22 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
12:23	28.1	120		12.8	6.99	63677	NM	5.43	-61.6	15.41	NM	
12:26	28.63	120		12.8	6.95	63853	NM	5.35	-64.8	15.89	NM	
12:29	29.2	160		12.7	6.94	64678	NM	4.95	-66.9	15.35	NM	
12:32	29.47	120		12.5	6.93	69344	NM	3.51	-73.5	16.36	NM	
12:35	29.8	120		12.8	6.95	71224	NM	2.38	-78.9	12.6	NM	
12:38	30.15	120		12.6	6.97	72722	NM	2.24	-77.9	6.53	NM	
12:41	30.28	120		12.5	6.98	73156	NM	2.19	-79.9	5.53	NM	
12:44	30.39	120	3.22	12.3	6.99	73458	NM	2.05	-82.3	6.15	NM	

Sample ID(s): PA-23d-121123	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	1 pump	ST	12/11/2023 20:47

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-24D
Well Permit No:

Date: 2023/12/11
Cool cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 80 (ft)	**Reference Elevation** 39.06 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 28.28 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 2.14 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
10:01	28.9	100		13.9	6.51	73531	NM	3.75	-35.4	12.78	NM	
10:04	29.1	100		14.3	6.55	73895	NM	2.26	-59.7	10.8	NM	
10:07	29.15	100		14.3	6.58	74306	NM	1.9	-65.8	8.53	NM	
10:10	29.2	100		14.3	6.59	74330	NM	1.25	-70.8	6.46	NM	
10:13	29.23	100		14.2	6.6	74426	NM	1.15	-72.5	5.37	NM	
10:16	29.27	100	2.14	14.3	6.61	74384	NM	1.11	-76.4	5.16	NM	

Sample ID(s): PA-24d-121123	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	1 pump	ST 	12/11/2023 18:19

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-25D
Well Permit No:

Date: 2023/12/11
Cool cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 79 (ft)	**Reference Elevation** 40.44 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 26.65 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 120 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 2.84 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
08:34	27.6	120		13.7	6.95	454.7	NM	7.65	-11.9	97.53	NM	
08:37	28.5	120		13.5	6.99	484.4	NM	6.7	-50.4	65.71	NM	
08:40	29.15	120		13.2	7.04	411.2	NM	6.05	-54.8	42.04	NM	
08:43	29.65	120		13.2	7.03	373.8	NM	6.21	-43	44.21	NM	
08:46	29.9	120		13.1	7.02	366.7	NM	6.18	-38.1	37.62	NM	
08:49	30.3	120		13.2	7.02	382.8	NM	6.02	-35.5	39.77	NM	
08:52	30.57	120	2.84	13.1	7.03	391.4	NM	5.94	-35.2	38.65	NM	

Sample ID(s): PA-25d-121123	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	1 pump	ST 	12/11/2023 16:56

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-30D
Well Permit No:

Date: 2023/12/13
Cool clear

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 49 (ft)	**Reference Elevation** 37.34 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 25.14 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 100 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 1.95 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
07:15	25.32	100		13.5	7.95	3208	NM	4.51	-27.9	9.59	NM	
07:18	25.4	100		13.5	7.97	3238	NM	2.22	-39.3	8.41	NM	
07:21	25.4	100		13.4	8	3281	NM	1.03	-53.6	9.32	NM	
07:24	25.4	100		13.5	8.03	3325	NM	0.6	-70.3	13.24	NM	
07:27	25.4	100		13.5	8.06	3360	NM	0.54	-76.5	11.86	NM	
07:30	25.4	100	1.95	13.4	8.09	3394	NM	0.58	-79.1	14.29	NM	

Sample ID(s):	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
PA-30d-121323	1 pump	ST 	12/13/2023 15:34
Analysis:			

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-08
Well Permit No:

Date: 2023/12/11
Cool cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 30 (ft)	**Reference Elevation** 40.47 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 27.9 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 120 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 2.16 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
06:37	27.95	120		12.4	7.74	151	NM	4.86	43.3	20.74	NM	
06:40	28	120		12.4	7.47	150.9	NM	3.31	46.4	15.73	NM	
06:43	28	120		12.5	7.37	173.7	NM	2.38	46.6	19.89	NM	
06:46	28	120		12.5	7.34	180.4	NM	2.07	46.9	22.85	NM	
06:49	28	120		12.5	7.3	184.9	NM	1.98	45.8	21.35	NM	
06:52	28	120	2.16	12.6	7.3	187.5	NM	1.92	44.3	23.14	NM	

Sample ID(s): PA-08-121123	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis:	Peri pump	ST 	12/11/2023 14:59

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-15I
Well Permit No:

Date: 2023/12/11
Cool cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 43 (ft)	**Reference Elevation** 40.62 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 27.4 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 120 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 2.16 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
07:27	26.45	120		13.8	7.63	137.8	NM	6.15	33.9	245.92	NM	
07:30	27	120		13.8	7.57	140.3	NM	6.1	33	147.63	NM	
07:33	27.2	120		13.8	7.55	148.2	NM	5.96	28.4	88.57	NM	
07:36	27.25	120		13.8	7.54	156.6	NM	6.02	22.8	73.17	NM	
07:39	27.3	120		13.7	7.53	160.8	NM	5.95	19.7	75.35	NM	
07:42	27.35	120	2.16	13.7	7.53	174.5	NM	6.01	17.9	73.84	NM	

Sample ID(s): PA-15i-121123	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	1 pump	ST 	12/11/2023 15:44

Low Flow Groundwater Sampling Field Data Form

Well ID: PA-44I
Well Permit No:

Date: 2023/12/10
Cool cloudy

Site ID ARKEMA-PORTLAND	**Purge Method / Pump Intake Depth** Low_Flow / 43 (ft)	**Reference Elevation** 40.36 (ft)
Site Address , Portland, US-OR	**Purge Equipment** NA	**Depth to Water / Free Product** 28.72 (ft) / None
Project Number 0682894	**Sample Equipment** NA	**Total Well Depth** (ft)
Project Name 20231211-GWMonitor	**Average Purge Rate** 160 (mL/min)	**Well Diameter / Well Screen Interval** (in) / - ()
Sampler scott terranova	**Volume of Water in Well / Total Volume Purged** () / 2.88 (l)	**Well Construction**

Well Head Vapor Measurements
PID: NA; FID: NA; CO: NA; CO2: NA; O2: NA; CH4: NA; H2S: NA

Time	DTW (ft)	Flow Rate (mL/min)	Purge Volume (l)	Temperature (C) ±3%	pH ±0.2pH units	Specific Conductivity (uS/cm) ±10%	Total Conductivity (NA)	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(NA)	Comments
10:13	28.75	160		14.6	9.44	169.7	NM	7.09	-52.3	17.36	NM	
10:16	28.75	160		14.6	9.64	167.9	NM	7.17	-46.6	14.21	NM	
10:19	28.75	160		14.6	9.71	168.8	NM	7.06	-36.6	12.43	NM	
10:22	28.75	160		14.6	9.73	169.5	NM	6.99	-30.1	13.31	NM	
10:25	28.75	160		14.6	9.77	171	NM	7.06	-26.1	13	NM	
10:28	28.75	160	2.88	14.7	9.8	171.4	NM	6.95	-22.8	13.63	NM	

Sample ID(s): PA-44i-121023	**Additional Comments**	**SAMPLER NAME AND SIGNATURE**	**Date Time**
Analysis:	2 pump	ST 	12/10/2023 18:30

APPENDIX B LABORATORY ANALYTICAL REPORTS

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Avery Soplata
ERM-West
1050 SW 6th Avenue
Suite 1650
Portland, Oregon 97204

Generated 1/11/2024 5:36:20 PM Revision 2

JOB DESCRIPTION

Arkema - Q4 2023 Groundwater Event

JOB NUMBER

580-134815-1

Eurofins Seattle
5755 8th Street East
Tacoma WA 98424

See page two for job notes and contact information.

Job Notes

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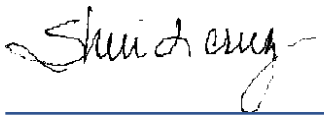
Authorization



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Revision 2

Authorized for release by
Sheri Cruz, Project Manager I
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(253)922-2310

Table of Contents

Job ID: 580-134815-1 Eurofins Seattle

Job Narrative
580-134815-1

Revised 1/5/2024 to remove ICV information.
Revised report 1/11/2024 for method 8260D_LL for duplicate analytes reporting in QC AB 580-446555 for the following CAS/Chemical names:
74-97-5 chlorobromomethane
128-48-1 Dibromochloromethane
75-27-4 Dichlorobromomethane
106-93-4 Ethylene Dibromide
98-06-6 tert-Butylbenzene

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.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 12/12/2023 11:30 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 2.1°C

GC/MS VOA
Method 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 580-446252 recovered outside control limits for the following analytes: Acetone.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-446252 recovered above the upper control limit for Dichlorodifluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: PA-24d-121123 (580-134815-9), MWA-31i(d)-121123 (580-134815-10), PA-23d-121123 (580-134815-11) and (CCVIS 580-446252/3).

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 580-446555 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 8260D_LL: The method blank for analytical batch 580-446157 contained Chlorobenzene and Hexachlorobutadiene above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL) in the method blank; therefore, re-extraction and re-analysis of samples was not performed.

Method 8260D_LL: The continuing calibration verification (CCV) associated with batch 580-446157 recovered above the upper control limit for Acetone and 2-Butanone (MEK). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: TB-121023 (580-134815-1), MWA-82-121023 (580-134815-2), MWA-81i-121023 (580-134815-3), MWA-41-121023 (580-134815-4), PA-44i-121023 (580-134815-5), PA-08-121123 (580-134815-6), PA-15i-121123 (580-134815-7), PA-25d-121123 (580-134815-8), PA-09-121123 (580-134815-12), PA-16i-121123 (580-134815-13), PA-03-121123 (580-134815-14), PA-26d-121123 (580-134815-15), PA-17iR-121123 (580-134815-16) and (CCVIS 580-446157/3).

Method 8260D_LL: The continuing calibration verification (CCV) associated with batch 580-446849 recovered above the upper control limit for Dichlorodifluoromethane, Carbon disulfide, 2,2-Dichloropropane, 2-Butanone (MEK) and Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: PA-03-121123 (580-134815-14), PA-26d-121123 (580-134815-15), PA-17iR-121123 (580-134815-16) and (CCVIS 580-446849/3).

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

Eurofins Seattle

HPLC/IC
Method 314.0: Due to the nature of the matrix (high conductivity measurements, difficulty in filtering, or extremely dark color) and in order to protect instrumentation, the following samples in analytical batch 320-727898 were diluted. Elevated reporting limits (RLs) are provided.

MWA-82-121023 (580-134815-2), PA-44i-121023 (580-134815-5), PA-08-121123 (580-134815-6), PA-15i-121123 (580-134815-7), PA-24d-121123 (580-134815-9), PA-23d-121123 (580-134815-11), PA-16i-121123 (580-134815-13), PA-03-121123 (580-134815-14) and PA-17iR-121123 (580-134815-16)

Method 314.0: The following samples in analytical batch 320-728701 were diluted, based on historical data, to bring the concentration of target analytes within the calibration range: MWA-31i(d)-121123 (580-134815-10), MWA-31i(d)-121123 (580-134815-10[MS]) and MWA-31i(d)-121123 (580-134815-10[MSD]). Elevated reporting limits (RLs) are provided.

Method 314.0: The MS/MSD associated with analytical batch 320-727898 was rejected. As a result, there is no valid MS/MSD being reported with this batch. The laboratory control sample (LCS) was well within established control limits and all other quality control samples are well within established control limits. The MS/MSD is being re-analyzed and the data from this batch is being reported.

MWA-81i-121023 (580-134815-3), MWA-41-121023 (580-134815-4), PA-44i-121023 (580-134815-5), PA-08-121123 (580-134815-6), PA-15i-121123 (580-134815-7), PA-25d-121123 (580-134815-8), PA-24d-121123 (580-134815-9), PA-23d-121123 (580-134815-11), PA-09-121123 (580-134815-12), PA-16i-121123 (580-134815-13), PA-03-121123 (580-134815-14), PA-26d-121123 (580-134815-15) and PA-17iR-121123 (580-134815-16)

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

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

Definitions/Glossary

Client: ERM-West
Job ID: 580-134815-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: ERM-West
Job ID: 580-134815-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: TB-121023
Lab Sample ID: 580-134815-1
Date Collected: 12/10/23 00:01
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		0.50	0.14	ug/L			12/13/23 16:52	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/23 16:52	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/23 16:52	1
Chloroethane	ND		0.50	0.096	ug/L			12/13/23 16:52	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/13/23 16:52	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/23 16:52	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/13/23 16:52	1
Acetone	ND		10	3.1	ug/L			12/13/23 16:52	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/23 16:52	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/23 16:52	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/23 16:52	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/23 16:52	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			12/13/23 16:52	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/23 16:52	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/13/23 16:52	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/23 16:52	1
Chloroform	ND		0.20	0.030	ug/L			12/13/23 16:52	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/23 16:52	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/23 16:52	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/23 16:52	1
Benzene	ND		0.20	0.030	ug/L			12/13/23 16:52	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/13/23 16:52	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/23 16:52	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/23 16:52	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/13/23 16:52	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/23 16:52	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/23 16:52	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/23 16:52	1
Toluene	ND		0.20	0.050	ug/L			12/13/23 16:52	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/23 16:52	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/23 16:52	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/13/23 16:52	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/23 16:52	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/13/23 16:52	1
Chlorobenzene	**0.12**	**J B**	0.20	0.060	ug/L			12/13/23 16:52	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/13/23 16:52	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/13/23 16:52	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/23 16:52	1
o-Xylene	ND		0.50	0.15	ug/L			12/13/23 16:52	1
Styrene	ND		1.0	0.19	ug/L			12/13/23 16:52	1
Bromoform	ND		0.50	0.16	ug/L			12/13/23 16:52	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/13/23 16:52	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/23 16:52	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/23 16:52	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/23 16:52	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/23 16:52	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/23 16:52	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/23 16:52	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/13/23 16:52	1

Client: ERM-West
Job ID: 580-134815-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: TB-121023
Lab Sample ID: 580-134815-1
Date Collected: 12/10/23 00:01
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/23 16:52	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/13/23 16:52	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/23 16:52	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/13/23 16:52	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 16:52	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 16:52	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/13/23 16:52	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/23 16:52	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/13/23 16:52	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/13/23 16:52	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/13/23 16:52	1
Naphthalene	ND		1.0	0.22	ug/L			12/13/23 16:52	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/13/23 16:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/13/23 16:52*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*12/13/23 16:52*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/13/23 16:52*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*12/13/23 16:52*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/18/23 21:18	1
Tetrachloroethene	ND		0.50	0.084	ug/L			12/18/23 21:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*12/18/23 21:18*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*12/18/23 21:18*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*12/18/23 21:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*12/18/23 21:18*	*1*

Client Sample ID: MWA-82-121023
Lab Sample ID: 580-134815-2

Date Collected: 12/10/23 08:32
Matrix: Water

Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		0.50	0.14	ug/L			12/13/23 17:12	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/23 17:12	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/23 17:12	1
Chloroethane	ND		0.50	0.096	ug/L			12/13/23 17:12	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/13/23 17:12	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/23 17:12	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/13/23 17:12	1
Acetone	ND		10	3.1	ug/L			12/13/23 17:12	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/23 17:12	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/23 17:12	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/23 17:12	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/23 17:12	1
1,1-Dichloroethane	**0.071**	**J**	0.20	0.025	ug/L			12/13/23 17:12	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/23 17:12	1
cis-1,2-Dichloroethene	**0.069**	**J**	0.20	0.055	ug/L			12/13/23 17:12	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/23 17:12	1
Chloroform	**0.28**		0.20	0.030	ug/L			12/13/23 17:12	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/23 17:12	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/23 17:12	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/23 17:12	1
Benzene	**0.074**	**J**	0.20	0.030	ug/L			12/13/23 17:12	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/13/23 17:12	1
Trichloroethene	**0.33**		0.20	0.066	ug/L			12/13/23 17:12	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/23 17:12	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/13/23 17:12	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/23 17:12	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/23 17:12	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/23 17:12	1
Toluene	ND		0.20	0.050	ug/L			12/13/23 17:12	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/23 17:12	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/23 17:12	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/13/23 17:12	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/23 17:12	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/13/23 17:12	1
Chlorobenzene	**0.080**	**J B**	0.20	0.060	ug/L			12/13/23 17:12	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/13/23 17:12	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/13/23 17:12	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/23 17:12	1
o-Xylene	ND		0.50	0.15	ug/L			12/13/23 17:12	1
Styrene	ND		1.0	0.19	ug/L			12/13/23 17:12	1
Bromoform	ND		0.50	0.16	ug/L			12/13/23 17:12	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/13/23 17:12	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/23 17:12	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/23 17:12	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/23 17:12	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/23 17:12	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/23 17:12	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/23 17:12	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/13/23 17:12	1

Client Sample ID: MWA-82-121023
Lab Sample ID: 580-134815-2
Date Collected: 12/10/23 08:32
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/23 17:12	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/13/23 17:12	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/23 17:12	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/13/23 17:12	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 17:12	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 17:12	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/13/23 17:12	1
1,2-Dichlorobenzene	**0.052**	**J**	0.30	0.038	ug/L			12/13/23 17:12	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/13/23 17:12	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/13/23 17:12	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/13/23 17:12	1
Naphthalene	ND		1.0	0.22	ug/L			12/13/23 17:12	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/13/23 17:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/13/23 17:12*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/13/23 17:12*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*12/13/23 17:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*12/13/23 17:12*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/18/23 21:42	1
Tetrachloroethene	**0.34**	**J**	0.50	0.084	ug/L			12/18/23 21:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*12/18/23 21:42*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*12/18/23 21:42*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/18/23 21:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*12/18/23 21:42*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	10	ug/L			12/15/23 13:46	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**14**		1.5	0.43	mg/L			12/13/23 17:52	1

Client: ERM-West
Job ID: 580-134815-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: MWA-81i-121023
Lab Sample ID: 580-134815-3
Date Collected: 12/10/23 09:17
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		0.50	0.14	ug/L			12/13/23 17:33	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/23 17:33	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/23 17:33	1
Chloroethane	ND		0.50	0.096	ug/L			12/13/23 17:33	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/13/23 17:33	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/23 17:33	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/13/23 17:33	1
Acetone	ND		10	3.1	ug/L			12/13/23 17:33	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/23 17:33	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/23 17:33	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/23 17:33	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/23 17:33	1
1,1-Dichloroethane	**0.092**	**J**	0.20	0.025	ug/L			12/13/23 17:33	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/23 17:33	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/13/23 17:33	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/23 17:33	1
Chloroform	ND		0.20	0.030	ug/L			12/13/23 17:33	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/23 17:33	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/23 17:33	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/23 17:33	1
Benzene	ND		0.20	0.030	ug/L			12/13/23 17:33	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/13/23 17:33	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/23 17:33	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/23 17:33	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/13/23 17:33	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/23 17:33	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/23 17:33	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/23 17:33	1
Toluene	ND		0.20	0.050	ug/L			12/13/23 17:33	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/23 17:33	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/23 17:33	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/13/23 17:33	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/23 17:33	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/13/23 17:33	1
Chlorobenzene	**0.064**	**J B**	0.20	0.060	ug/L			12/13/23 17:33	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/13/23 17:33	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/13/23 17:33	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/23 17:33	1
o-Xylene	ND		0.50	0.15	ug/L			12/13/23 17:33	1
Styrene	ND		1.0	0.19	ug/L			12/13/23 17:33	1
Bromoform	ND		0.50	0.16	ug/L			12/13/23 17:33	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/13/23 17:33	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/23 17:33	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/23 17:33	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/23 17:33	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/23 17:33	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/23 17:33	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/23 17:33	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/13/23 17:33	1

Client Sample ID: MWA-81i-121023
Lab Sample ID: 580-134815-3
Date Collected: 12/10/23 09:17
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/23 17:33	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/13/23 17:33	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/23 17:33	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/13/23 17:33	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 17:33	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 17:33	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/13/23 17:33	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/23 17:33	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/13/23 17:33	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/13/23 17:33	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/13/23 17:33	1
Naphthalene	ND		1.0	0.22	ug/L			12/13/23 17:33	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/13/23 17:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/13/23 17:33*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/13/23 17:33*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*12/13/23 17:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*12/13/23 17:33*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/18/23 22:06	1
Tetrachloroethene	ND		0.50	0.084	ug/L			12/18/23 22:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*		*12/18/23 22:06*	*1*
Dibromofluoromethane (Surr)	*107*		*80 - 120*		*12/18/23 22:06*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*12/18/23 22:06*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/18/23 22:06*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			12/15/23 14:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**39**		1.5	0.43	mg/L			12/13/23 18:04	1

Client: ERM-West
Job ID: 580-134815-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: MWA-41-121023
Lab Sample ID: 580-134815-4
Date Collected: 12/10/23 09:47
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		0.50	0.14	ug/L			12/13/23 17:53	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/23 17:53	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/23 17:53	1
Chloroethane	ND		0.50	0.096	ug/L			12/13/23 17:53	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/13/23 17:53	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/23 17:53	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/13/23 17:53	1
Acetone	ND		10	3.1	ug/L			12/13/23 17:53	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/23 17:53	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/23 17:53	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/23 17:53	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/23 17:53	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			12/13/23 17:53	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/23 17:53	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/13/23 17:53	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/23 17:53	1
Chloroform	ND		0.20	0.030	ug/L			12/13/23 17:53	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/23 17:53	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/23 17:53	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/23 17:53	1
Benzene	ND		0.20	0.030	ug/L			12/13/23 17:53	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/13/23 17:53	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/23 17:53	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/23 17:53	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/13/23 17:53	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/23 17:53	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/23 17:53	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/23 17:53	1
Toluene	ND		0.20	0.050	ug/L			12/13/23 17:53	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/23 17:53	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/23 17:53	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/13/23 17:53	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/23 17:53	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/13/23 17:53	1
Chlorobenzene	**0.063**	**J B**	0.20	0.060	ug/L			12/13/23 17:53	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/13/23 17:53	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/13/23 17:53	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/23 17:53	1
o-Xylene	ND		0.50	0.15	ug/L			12/13/23 17:53	1
Styrene	ND		1.0	0.19	ug/L			12/13/23 17:53	1
Bromoform	ND		0.50	0.16	ug/L			12/13/23 17:53	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/13/23 17:53	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/23 17:53	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/23 17:53	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/23 17:53	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/23 17:53	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/23 17:53	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/23 17:53	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/13/23 17:53	1

Client Sample ID: MWA-41-121023
Lab Sample ID: 580-134815-4

Date Collected: 12/10/23 09:47
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/23 17:53	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/13/23 17:53	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/23 17:53	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/13/23 17:53	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 17:53	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 17:53	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/13/23 17:53	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/23 17:53	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/13/23 17:53	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/13/23 17:53	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/13/23 17:53	1
Naphthalene	ND		1.0	0.22	ug/L			12/13/23 17:53	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/13/23 17:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/13/23 17:53*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/13/23 17:53*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/13/23 17:53*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*12/13/23 17:53*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/18/23 22:30	1
Tetrachloroethene	ND		0.50	0.084	ug/L			12/18/23 22:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*12/18/23 22:30*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*12/18/23 22:30*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*12/18/23 22:30*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*12/18/23 22:30*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			12/15/23 14:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**5.6**		1.5	0.43	mg/L			12/13/23 18:16	1

Client: ERM-West
Job ID: 580-134815-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-44i-121023
Lab Sample ID: 580-134815-5
Date Collected: 12/10/23 10:29
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		0.50	0.14	ug/L			12/13/23 18:13	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/23 18:13	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/23 18:13	1
Chloroethane	ND		0.50	0.096	ug/L			12/13/23 18:13	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/13/23 18:13	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/23 18:13	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/13/23 18:13	1
Acetone	ND		10	3.1	ug/L			12/13/23 18:13	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/23 18:13	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/23 18:13	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/23 18:13	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/23 18:13	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			12/13/23 18:13	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/23 18:13	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/13/23 18:13	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/23 18:13	1
Chloroform	ND		0.20	0.030	ug/L			12/13/23 18:13	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/23 18:13	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/23 18:13	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/23 18:13	1
Benzene	ND		0.20	0.030	ug/L			12/13/23 18:13	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/13/23 18:13	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/23 18:13	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/23 18:13	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/13/23 18:13	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/23 18:13	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/23 18:13	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/23 18:13	1
Toluene	ND		0.20	0.050	ug/L			12/13/23 18:13	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/23 18:13	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/23 18:13	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/13/23 18:13	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/23 18:13	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/13/23 18:13	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/13/23 18:13	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/13/23 18:13	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/13/23 18:13	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/23 18:13	1
o-Xylene	ND		0.50	0.15	ug/L			12/13/23 18:13	1
Styrene	ND		1.0	0.19	ug/L			12/13/23 18:13	1
Bromoform	ND		0.50	0.16	ug/L			12/13/23 18:13	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/13/23 18:13	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/23 18:13	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/23 18:13	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/23 18:13	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/23 18:13	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/23 18:13	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/23 18:13	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/13/23 18:13	1

Client Sample ID: PA-44i-121023
Lab Sample ID: 580-134815-5

Date Collected: 12/10/23 10:29
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/23 18:13	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/13/23 18:13	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/23 18:13	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/13/23 18:13	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 18:13	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 18:13	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/13/23 18:13	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/23 18:13	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/13/23 18:13	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/13/23 18:13	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/13/23 18:13	1
Naphthalene	ND		1.0	0.22	ug/L			12/13/23 18:13	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/13/23 18:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/13/23 18:13*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/13/23 18:13*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/13/23 18:13*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*12/13/23 18:13*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/18/23 22:55	1
Tetrachloroethene	ND		0.50	0.084	ug/L			12/18/23 22:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*		*12/18/23 22:55*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*12/18/23 22:55*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/18/23 22:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*12/18/23 22:55*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		8.0	4.0	ug/L			12/15/23 14:40	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**1.9**		1.5	0.43	mg/L			12/13/23 18:27	1

Client Sample ID: PA-08-121123
Lab Sample ID: 580-134815-6
Date Collected: 12/11/23 06:53
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		0.50	0.14	ug/L			12/13/23 18:33	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/23 18:33	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/23 18:33	1
Chloroethane	ND		0.50	0.096	ug/L			12/13/23 18:33	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/13/23 18:33	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/23 18:33	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/13/23 18:33	1
Acetone	ND		10	3.1	ug/L			12/13/23 18:33	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/23 18:33	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/23 18:33	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/23 18:33	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/23 18:33	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			12/13/23 18:33	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/23 18:33	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/13/23 18:33	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/23 18:33	1
Chloroform	ND		0.20	0.030	ug/L			12/13/23 18:33	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/23 18:33	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/23 18:33	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/23 18:33	1
Benzene	ND		0.20	0.030	ug/L			12/13/23 18:33	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/13/23 18:33	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/23 18:33	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/23 18:33	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/13/23 18:33	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/23 18:33	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/23 18:33	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/23 18:33	1
Toluene	ND		0.20	0.050	ug/L			12/13/23 18:33	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/23 18:33	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/23 18:33	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/13/23 18:33	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/23 18:33	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/13/23 18:33	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/13/23 18:33	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/13/23 18:33	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/13/23 18:33	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/23 18:33	1
o-Xylene	ND		0.50	0.15	ug/L			12/13/23 18:33	1
Styrene	ND		1.0	0.19	ug/L			12/13/23 18:33	1
Bromoform	ND		0.50	0.16	ug/L			12/13/23 18:33	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/13/23 18:33	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/23 18:33	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/23 18:33	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/23 18:33	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/23 18:33	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/23 18:33	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/23 18:33	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/13/23 18:33	1

Client Sample ID: PA-08-121123
Lab Sample ID: 580-134815-6
Date Collected: 12/11/23 06:53
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/23 18:33	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/13/23 18:33	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/23 18:33	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/13/23 18:33	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 18:33	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 18:33	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/13/23 18:33	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/23 18:33	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/13/23 18:33	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/13/23 18:33	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/13/23 18:33	1
Naphthalene	ND		1.0	0.22	ug/L			12/13/23 18:33	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/13/23 18:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/13/23 18:33*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/13/23 18:33*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/13/23 18:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*12/13/23 18:33*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/18/23 23:19	1
Tetrachloroethene	ND		0.50	0.084	ug/L			12/18/23 23:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*12/18/23 23:19*	*1*
Dibromofluoromethane (Surr)	*106*		*80 - 120*		*12/18/23 23:19*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/18/23 23:19*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*12/18/23 23:19*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		8.0	4.0	ug/L			12/15/23 14:58	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**29**		1.5	0.43	mg/L			12/13/23 18:39	1

Client Sample ID: PA-15i-121123
Lab Sample ID: 580-134815-7
Date Collected: 12/11/23 07:43
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		0.50	0.14	ug/L			12/13/23 18:53	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/23 18:53	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/23 18:53	1
Chloroethane	ND		0.50	0.096	ug/L			12/13/23 18:53	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/13/23 18:53	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/23 18:53	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/13/23 18:53	1
Acetone	ND		10	3.1	ug/L			12/13/23 18:53	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/23 18:53	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/23 18:53	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/23 18:53	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/23 18:53	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			12/13/23 18:53	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/23 18:53	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/13/23 18:53	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/23 18:53	1
Chloroform	ND		0.20	0.030	ug/L			12/13/23 18:53	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/23 18:53	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/23 18:53	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/23 18:53	1
Benzene	ND		0.20	0.030	ug/L			12/13/23 18:53	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/13/23 18:53	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/23 18:53	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/23 18:53	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/13/23 18:53	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/23 18:53	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/23 18:53	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/23 18:53	1
Toluene	ND		0.20	0.050	ug/L			12/13/23 18:53	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/23 18:53	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/23 18:53	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/13/23 18:53	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/23 18:53	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/13/23 18:53	1
Chlorobenzene	**0.077**	**J B**	0.20	0.060	ug/L			12/13/23 18:53	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/13/23 18:53	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/13/23 18:53	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/23 18:53	1
o-Xylene	ND		0.50	0.15	ug/L			12/13/23 18:53	1
Styrene	ND		1.0	0.19	ug/L			12/13/23 18:53	1
Bromoform	ND		0.50	0.16	ug/L			12/13/23 18:53	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/13/23 18:53	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/23 18:53	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/23 18:53	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/23 18:53	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/23 18:53	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/23 18:53	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/23 18:53	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/13/23 18:53	1

Client Sample ID: PA-15i-121123
Lab Sample ID: 580-134815-7
Date Collected: 12/11/23 07:43
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/23 18:53	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/13/23 18:53	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/23 18:53	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/13/23 18:53	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 18:53	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 18:53	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/13/23 18:53	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/23 18:53	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/13/23 18:53	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/13/23 18:53	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/13/23 18:53	1
Naphthalene	ND		1.0	0.22	ug/L			12/13/23 18:53	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/13/23 18:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/13/23 18:53*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/13/23 18:53*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*12/13/23 18:53*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*12/13/23 18:53*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/18/23 23:43	1
Tetrachloroethene	ND		0.50	0.084	ug/L			12/18/23 23:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*12/18/23 23:43*	*1*
Dibromofluoromethane (Surr)	*107*		*80 - 120*		*12/18/23 23:43*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*12/18/23 23:43*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/18/23 23:43*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	10	ug/L			12/15/23 15:16	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**4.4**		1.5	0.43	mg/L			12/13/23 18:51	1

Client: ERM-West
Job ID: 580-134815-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-25d-121123
Lab Sample ID: 580-134815-8
Date Collected: 12/11/23 09:53
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		0.50	0.14	ug/L			12/13/23 19:14	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/23 19:14	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/23 19:14	1
Chloroethane	ND		0.50	0.096	ug/L			12/13/23 19:14	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/13/23 19:14	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/23 19:14	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/13/23 19:14	1
Acetone	ND		10	3.1	ug/L			12/13/23 19:14	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/23 19:14	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/23 19:14	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/23 19:14	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/23 19:14	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			12/13/23 19:14	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/23 19:14	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/13/23 19:14	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/23 19:14	1
Chloroform	ND		0.20	0.030	ug/L			12/13/23 19:14	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/23 19:14	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/23 19:14	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/23 19:14	1
Benzene	ND		0.20	0.030	ug/L			12/13/23 19:14	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/13/23 19:14	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/23 19:14	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/23 19:14	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/13/23 19:14	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/23 19:14	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/23 19:14	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/23 19:14	1
Toluene	ND		0.20	0.050	ug/L			12/13/23 19:14	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/23 19:14	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/23 19:14	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/13/23 19:14	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/23 19:14	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/13/23 19:14	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/13/23 19:14	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/13/23 19:14	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/13/23 19:14	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/23 19:14	1
o-Xylene	ND		0.50	0.15	ug/L			12/13/23 19:14	1
Styrene	ND		1.0	0.19	ug/L			12/13/23 19:14	1
Bromoform	ND		0.50	0.16	ug/L			12/13/23 19:14	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/13/23 19:14	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/23 19:14	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/23 19:14	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/23 19:14	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/23 19:14	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/23 19:14	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/23 19:14	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/13/23 19:14	1

Client Sample ID: PA-25d-121123
Lab Sample ID: 580-134815-8
Date Collected: 12/11/23 09:53
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/23 19:14	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/13/23 19:14	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/23 19:14	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/13/23 19:14	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 19:14	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 19:14	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/13/23 19:14	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/23 19:14	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/13/23 19:14	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/13/23 19:14	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/13/23 19:14	1
Naphthalene	ND		1.0	0.22	ug/L			12/13/23 19:14	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/13/23 19:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*12/13/23 19:14*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/13/23 19:14*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/13/23 19:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*12/13/23 19:14*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/19/23 00:07	1
Tetrachloroethene	ND		0.50	0.084	ug/L			12/19/23 00:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*		*12/19/23 00:07*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*12/19/23 00:07*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*12/19/23 00:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*12/19/23 00:07*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			12/15/23 15:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**12**		1.5	0.43	mg/L			12/13/23 19:02	1

Client: ERM-West
Job ID: 580-134815-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-24d-121123
Lab Sample ID: 580-134815-9
Date Collected: 12/11/23 10:17
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/14/23 18:23	1
Chloromethane	ND		1.0	0.28	ug/L			12/14/23 18:23	1
Vinyl chloride	ND		1.0	0.22	ug/L			12/14/23 18:23	1
Bromomethane	ND		1.0	0.21	ug/L			12/14/23 18:23	1
Chloroethane	ND		1.0	0.35	ug/L			12/14/23 18:23	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/14/23 18:23	1
Carbon disulfide	**0.72**	**J**	1.0	0.53	ug/L			12/14/23 18:23	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			12/14/23 18:23	1
Acetone	ND	*1	15	3.2	ug/L			12/14/23 18:23	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/14/23 18:23	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/14/23 18:23	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/14/23 18:23	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			12/14/23 18:23	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/14/23 18:23	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/14/23 18:23	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			12/14/23 18:23	1
Bromochloromethane	ND		1.0	0.29	ug/L			12/14/23 18:23	1
Chloroform	ND		1.0	0.26	ug/L			12/14/23 18:23	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/14/23 18:23	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/14/23 18:23	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/14/23 18:23	1
Benzene	ND		1.0	0.24	ug/L			12/14/23 18:23	1
1,2-Dichloroethane	**1.1**		1.0	0.42	ug/L			12/14/23 18:23	1
Trichloroethene	ND		1.0	0.26	ug/L			12/14/23 18:23	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			12/14/23 18:23	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/14/23 18:23	1
Dibromomethane	ND		1.0	0.34	ug/L			12/14/23 18:23	1
Bromodichloromethane	ND		1.0	0.29	ug/L			12/14/23 18:23	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/14/23 18:23	1
Toluene	ND		1.0	0.39	ug/L			12/14/23 18:23	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/14/23 18:23	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			12/14/23 18:23	1
Tetrachloroethene	ND		1.0	0.41	ug/L			12/14/23 18:23	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/14/23 18:23	1
Dibromochloromethane	ND		1.0	0.43	ug/L			12/14/23 18:23	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			12/14/23 18:23	1
Chlorobenzene	ND		1.0	0.44	ug/L			12/14/23 18:23	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			12/14/23 18:23	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/14/23 18:23	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/14/23 18:23	1
o-Xylene	ND		1.0	0.39	ug/L			12/14/23 18:23	1
Styrene	ND		1.0	0.53	ug/L			12/14/23 18:23	1
Bromoform	ND		1.0	0.51	ug/L			12/14/23 18:23	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/14/23 18:23	1
Bromobenzene	ND		1.0	0.43	ug/L			12/14/23 18:23	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			12/14/23 18:23	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/14/23 18:23	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/14/23 18:23	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/14/23 18:23	1

Client: ERM-West
Job ID: 580-134815-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-24d-121123
Lab Sample ID: 580-134815-9
Date Collected: 12/11/23 10:17
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/14/23 18:23	1
t-Butylbenzene	ND		2.0	0.58	ug/L			12/14/23 18:23	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/14/23 18:23	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/14/23 18:23	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/14/23 18:23	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/14/23 18:23	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/14/23 18:23	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/14/23 18:23	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/14/23 18:23	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/14/23 18:23	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/14/23 18:23	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/14/23 18:23	1
Naphthalene	ND		3.0	0.93	ug/L			12/14/23 18:23	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/14/23 18:23	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			12/14/23 18:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/14/23 18:23*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*80 - 120*		*12/14/23 18:23*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*12/14/23 18:23*	*1*
Dibromofluoromethane (Surr)	*107*		*80 - 120*		*12/14/23 18:23*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		400	200	ug/L			12/15/23 15:52	100

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**31000**		1500	430	mg/L			12/13/23 19:49	1000

Client: ERM-West
Job ID: 580-134815-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: MWA-31i(d)-121123
Lab Sample ID: 580-134815-10
Date Collected: 12/11/23 11:20
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/19/23 01:19	1
Chloromethane	ND		1.0	0.28	ug/L			12/19/23 01:19	1
Vinyl chloride	ND		1.0	0.22	ug/L			12/19/23 01:19	1
Bromomethane	ND		1.0	0.21	ug/L			12/19/23 01:19	1
Chloroethane	ND		1.0	0.35	ug/L			12/19/23 01:19	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/19/23 01:19	1
Carbon disulfide	ND		1.0	0.53	ug/L			12/19/23 01:19	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			12/19/23 01:19	1
Acetone	ND		15	3.2	ug/L			12/19/23 01:19	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/19/23 01:19	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/19/23 01:19	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/19/23 01:19	1
1,1-Dichloroethane	**0.31**	**J**	1.0	0.22	ug/L			12/19/23 01:19	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/19/23 01:19	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/19/23 01:19	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			12/19/23 01:19	1
Bromochloromethane	ND		1.0	0.29	ug/L			12/19/23 01:19	1
Chloroform	**41**		1.0	0.26	ug/L			12/19/23 01:19	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/19/23 01:19	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/19/23 01:19	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/19/23 01:19	1
Benzene	ND		1.0	0.24	ug/L			12/19/23 01:19	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			12/19/23 01:19	1
Trichloroethene	ND		1.0	0.26	ug/L			12/19/23 01:19	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			12/19/23 01:19	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/19/23 01:19	1
Dibromomethane	ND		1.0	0.34	ug/L			12/19/23 01:19	1
Bromodichloromethane	ND		1.0	0.29	ug/L			12/19/23 01:19	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/19/23 01:19	1
Toluene	ND		1.0	0.39	ug/L			12/19/23 01:19	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/19/23 01:19	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			12/19/23 01:19	1
Tetrachloroethene	ND		1.0	0.41	ug/L			12/19/23 01:19	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/19/23 01:19	1
Dibromochloromethane	ND		1.0	0.43	ug/L			12/19/23 01:19	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			12/19/23 01:19	1
Chlorobenzene	ND		1.0	0.44	ug/L			12/19/23 01:19	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			12/19/23 01:19	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/19/23 01:19	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/19/23 01:19	1
o-Xylene	ND		1.0	0.39	ug/L			12/19/23 01:19	1
Styrene	ND	F1	1.0	0.53	ug/L			12/19/23 01:19	1
Bromoform	ND		1.0	0.51	ug/L			12/19/23 01:19	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/19/23 01:19	1
Bromobenzene	ND		1.0	0.43	ug/L			12/19/23 01:19	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			12/19/23 01:19	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/19/23 01:19	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/19/23 01:19	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/19/23 01:19	1

Client: ERM-West
Job ID: 580-134815-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: MWA-31i(d)-121123
Lab Sample ID: 580-134815-10
Date Collected: 12/11/23 11:20
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/19/23 01:19	1
t-Butylbenzene	ND		2.0	0.58	ug/L			12/19/23 01:19	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/19/23 01:19	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/19/23 01:19	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/19/23 01:19	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/19/23 01:19	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/19/23 01:19	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/19/23 01:19	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/19/23 01:19	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/19/23 01:19	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/19/23 01:19	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/19/23 01:19	1
Naphthalene	ND		3.0	0.93	ug/L			12/19/23 01:19	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/19/23 01:19	1
1,3,5-Trimethylbenzene	ND	F1	1.0	0.55	ug/L			12/19/23 01:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*12/19/23 01:19*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*80 - 120*		*12/19/23 01:19*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*12/19/23 01:19*	*1*
Dibromofluoromethane (Surr)	*106*		*80 - 120*		*12/19/23 01:19*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**28000**		8000	4000	ug/L			12/18/23 18:56	2000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**14000**		1500	430	mg/L			12/13/23 20:13	1000

Client: ERM-West
Job ID: 580-134815-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-23d-121123
Lab Sample ID: 580-134815-11
Date Collected: 12/11/23 12:45
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/14/23 19:11	1
Chloromethane	ND		1.0	0.28	ug/L			12/14/23 19:11	1
Vinyl chloride	ND		1.0	0.22	ug/L			12/14/23 19:11	1
Bromomethane	ND		1.0	0.21	ug/L			12/14/23 19:11	1
Chloroethane	ND		1.0	0.35	ug/L			12/14/23 19:11	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/14/23 19:11	1
Carbon disulfide	**0.69**	**J**	1.0	0.53	ug/L			12/14/23 19:11	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			12/14/23 19:11	1
Acetone	**3.5**	**J *1**	15	3.2	ug/L			12/14/23 19:11	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/14/23 19:11	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/14/23 19:11	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/14/23 19:11	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			12/14/23 19:11	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/14/23 19:11	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/14/23 19:11	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			12/14/23 19:11	1
Bromochloromethane	ND		1.0	0.29	ug/L			12/14/23 19:11	1
Chloroform	ND		1.0	0.26	ug/L			12/14/23 19:11	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/14/23 19:11	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/14/23 19:11	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/14/23 19:11	1
Benzene	ND		1.0	0.24	ug/L			12/14/23 19:11	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			12/14/23 19:11	1
Trichloroethene	ND		1.0	0.26	ug/L			12/14/23 19:11	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			12/14/23 19:11	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/14/23 19:11	1
Dibromomethane	ND		1.0	0.34	ug/L			12/14/23 19:11	1
Bromodichloromethane	ND		1.0	0.29	ug/L			12/14/23 19:11	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/14/23 19:11	1
Toluene	ND		1.0	0.39	ug/L			12/14/23 19:11	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/14/23 19:11	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			12/14/23 19:11	1
Tetrachloroethene	ND		1.0	0.41	ug/L			12/14/23 19:11	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/14/23 19:11	1
Dibromochloromethane	ND		1.0	0.43	ug/L			12/14/23 19:11	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			12/14/23 19:11	1
Chlorobenzene	ND		1.0	0.44	ug/L			12/14/23 19:11	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			12/14/23 19:11	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/14/23 19:11	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/14/23 19:11	1
o-Xylene	ND		1.0	0.39	ug/L			12/14/23 19:11	1
Styrene	ND		1.0	0.53	ug/L			12/14/23 19:11	1
Bromoform	ND		1.0	0.51	ug/L			12/14/23 19:11	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/14/23 19:11	1
Bromobenzene	ND		1.0	0.43	ug/L			12/14/23 19:11	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			12/14/23 19:11	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/14/23 19:11	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/14/23 19:11	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/14/23 19:11	1

Client: ERM-West
Job ID: 580-134815-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-23d-121123
Lab Sample ID: 580-134815-11
Date Collected: 12/11/23 12:45
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/14/23 19:11	1
t-Butylbenzene	ND		2.0	0.58	ug/L			12/14/23 19:11	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/14/23 19:11	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/14/23 19:11	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/14/23 19:11	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/14/23 19:11	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/14/23 19:11	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/14/23 19:11	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/14/23 19:11	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/14/23 19:11	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/14/23 19:11	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/14/23 19:11	1
Naphthalene	ND		3.0	0.93	ug/L			12/14/23 19:11	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/14/23 19:11	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			12/14/23 19:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/14/23 19:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*80 - 120*		*12/14/23 19:11*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*12/14/23 19:11*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/14/23 19:11*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		600	300	ug/L			12/15/23 19:08	150

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**30000**		1500	430	mg/L			12/13/23 20:59	1000

Client Sample ID: PA-09-121123
Lab Sample ID: 580-134815-12

Date Collected: 12/11/23 09:05
Matrix: Water

Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		0.50	0.14	ug/L			12/13/23 19:34	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/23 19:34	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/23 19:34	1
Chloroethane	ND		0.50	0.096	ug/L			12/13/23 19:34	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/13/23 19:34	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/23 19:34	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/13/23 19:34	1
Acetone	ND		10	3.1	ug/L			12/13/23 19:34	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/23 19:34	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/23 19:34	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/23 19:34	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/23 19:34	1
1,1-Dichloroethane	**0.047**	**J**	0.20	0.025	ug/L			12/13/23 19:34	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/23 19:34	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/13/23 19:34	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/23 19:34	1
Chloroform	ND		0.20	0.030	ug/L			12/13/23 19:34	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/23 19:34	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/23 19:34	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/23 19:34	1
Benzene	ND		0.20	0.030	ug/L			12/13/23 19:34	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/13/23 19:34	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/23 19:34	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/23 19:34	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/13/23 19:34	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/23 19:34	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/23 19:34	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/23 19:34	1
Toluene	ND		0.20	0.050	ug/L			12/13/23 19:34	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/23 19:34	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/23 19:34	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/13/23 19:34	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/23 19:34	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/13/23 19:34	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/13/23 19:34	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/13/23 19:34	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/13/23 19:34	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/23 19:34	1
o-Xylene	ND		0.50	0.15	ug/L			12/13/23 19:34	1
Styrene	ND		1.0	0.19	ug/L			12/13/23 19:34	1
Bromoform	ND		0.50	0.16	ug/L			12/13/23 19:34	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/13/23 19:34	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/23 19:34	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/23 19:34	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/23 19:34	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/23 19:34	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/23 19:34	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/23 19:34	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/13/23 19:34	1

Client Sample ID: PA-09-121123
Lab Sample ID: 580-134815-12
Date Collected: 12/11/23 09:05
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/23 19:34	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/13/23 19:34	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/23 19:34	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/13/23 19:34	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 19:34	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 19:34	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/13/23 19:34	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/23 19:34	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/13/23 19:34	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/13/23 19:34	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/13/23 19:34	1
Naphthalene	ND		1.0	0.22	ug/L			12/13/23 19:34	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/13/23 19:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/13/23 19:34*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*12/13/23 19:34*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*12/13/23 19:34*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*12/13/23 19:34*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/19/23 00:31	1
Tetrachloroethene	ND		0.50	0.084	ug/L			12/19/23 00:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*12/19/23 00:31*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*12/19/23 00:31*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*12/19/23 00:31*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*12/19/23 00:31*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			12/15/23 18:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**5.6**		1.5	0.43	mg/L			12/13/23 21:11	1

Client: ERM-West
Job ID: 580-134815-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-16i-121123
Lab Sample ID: 580-134815-13
Date Collected: 12/11/23 07:32
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	**0.18**	**J**	0.50	0.14	ug/L			12/13/23 19:54	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/23 19:54	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/23 19:54	1
Chloroethane	ND		0.50	0.096	ug/L			12/13/23 19:54	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/13/23 19:54	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/23 19:54	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/13/23 19:54	1
Acetone	ND		10	3.1	ug/L			12/13/23 19:54	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/23 19:54	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/23 19:54	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/23 19:54	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/23 19:54	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			12/13/23 19:54	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/23 19:54	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/13/23 19:54	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/23 19:54	1
Chloroform	ND		0.20	0.030	ug/L			12/13/23 19:54	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/23 19:54	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/23 19:54	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/23 19:54	1
Benzene	ND		0.20	0.030	ug/L			12/13/23 19:54	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/13/23 19:54	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/23 19:54	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/23 19:54	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/13/23 19:54	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/23 19:54	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/23 19:54	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/23 19:54	1
Toluene	ND		0.20	0.050	ug/L			12/13/23 19:54	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/23 19:54	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/23 19:54	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/13/23 19:54	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/23 19:54	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/13/23 19:54	1
Chlorobenzene	**0.066**	**J B**	0.20	0.060	ug/L			12/13/23 19:54	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/13/23 19:54	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/13/23 19:54	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/23 19:54	1
o-Xylene	ND		0.50	0.15	ug/L			12/13/23 19:54	1
Styrene	ND		1.0	0.19	ug/L			12/13/23 19:54	1
Bromoform	ND		0.50	0.16	ug/L			12/13/23 19:54	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/13/23 19:54	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/23 19:54	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/23 19:54	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/23 19:54	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/23 19:54	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/23 19:54	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/23 19:54	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/13/23 19:54	1

Client Sample ID: PA-16i-121123
Lab Sample ID: 580-134815-13
Date Collected: 12/11/23 07:32
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/23 19:54	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/13/23 19:54	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/23 19:54	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/13/23 19:54	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 19:54	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 19:54	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/13/23 19:54	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/23 19:54	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/13/23 19:54	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/13/23 19:54	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/13/23 19:54	1
Naphthalene	ND		1.0	0.22	ug/L			12/13/23 19:54	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/13/23 19:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/13/23 19:54*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/13/23 19:54*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*12/13/23 19:54*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*12/13/23 19:54*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/19/23 00:55	1
Tetrachloroethene	ND		0.50	0.084	ug/L			12/19/23 00:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*12/19/23 00:55*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*12/19/23 00:55*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*12/19/23 00:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*12/19/23 00:55*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		8.0	4.0	ug/L			12/15/23 18:32	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**12**		1.5	0.43	mg/L			12/13/23 21:23	1

Client Sample ID: PA-03-121123
Lab Sample ID: 580-134815-14
Date Collected: 12/11/23 12:25
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		0.50	0.14	ug/L			12/13/23 20:14	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/23 20:14	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/23 20:14	1
Chloroethane	ND		0.50	0.096	ug/L			12/13/23 20:14	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/13/23 20:14	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/23 20:14	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/13/23 20:14	1
Acetone	ND		10	3.1	ug/L			12/13/23 20:14	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/23 20:14	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/23 20:14	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/23 20:14	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/23 20:14	1
1,1-Dichloroethane	**0.11**	**J**	0.20	0.025	ug/L			12/13/23 20:14	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/23 20:14	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/13/23 20:14	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/23 20:14	1
Chloroform	ND		0.20	0.030	ug/L			12/13/23 20:14	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/23 20:14	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/23 20:14	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/23 20:14	1
Benzene	**0.061**	**J**	0.20	0.030	ug/L			12/13/23 20:14	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/13/23 20:14	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/23 20:14	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/23 20:14	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/13/23 20:14	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/23 20:14	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/23 20:14	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/23 20:14	1
Toluene	**0.15**	**J**	0.20	0.050	ug/L			12/13/23 20:14	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/23 20:14	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/23 20:14	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/13/23 20:14	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/23 20:14	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/13/23 20:14	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/13/23 20:14	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/13/23 20:14	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/13/23 20:14	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/23 20:14	1
o-Xylene	ND		0.50	0.15	ug/L			12/13/23 20:14	1
Styrene	ND		1.0	0.19	ug/L			12/13/23 20:14	1
Bromoform	ND		0.50	0.16	ug/L			12/13/23 20:14	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/13/23 20:14	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/23 20:14	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/23 20:14	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/23 20:14	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/23 20:14	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/23 20:14	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/23 20:14	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/13/23 20:14	1

Client Sample ID: PA-03-121123
Lab Sample ID: 580-134815-14
Date Collected: 12/11/23 12:25
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/23 20:14	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/13/23 20:14	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/23 20:14	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/13/23 20:14	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 20:14	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 20:14	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/13/23 20:14	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/23 20:14	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/13/23 20:14	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/13/23 20:14	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/13/23 20:14	1
Naphthalene	ND		1.0	0.22	ug/L			12/13/23 20:14	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/13/23 20:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*12/13/23 20:14*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/13/23 20:14*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/13/23 20:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*12/13/23 20:14*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/21/23 15:29	1
Tetrachloroethene	ND		0.50	0.084	ug/L			12/21/23 15:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*80 - 120*		*12/21/23 15:29*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*12/21/23 15:29*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/21/23 15:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/21/23 15:29*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		8.0	4.0	ug/L			12/15/23 17:39	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**4.6**		1.5	0.43	mg/L			12/13/23 21:58	1

Client Sample ID: PA-26d-121123
Lab Sample ID: 580-134815-15
Date Collected: 12/11/23 10:51
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		0.50	0.14	ug/L			12/13/23 20:34	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/23 20:34	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/23 20:34	1
Chloroethane	ND		0.50	0.096	ug/L			12/13/23 20:34	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/13/23 20:34	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/23 20:34	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/13/23 20:34	1
Acetone	ND		10	3.1	ug/L			12/13/23 20:34	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/23 20:34	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/23 20:34	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/23 20:34	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/23 20:34	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			12/13/23 20:34	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/23 20:34	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/13/23 20:34	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/23 20:34	1
Chloroform	ND		0.20	0.030	ug/L			12/13/23 20:34	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/23 20:34	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/23 20:34	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/23 20:34	1
Benzene	ND		0.20	0.030	ug/L			12/13/23 20:34	1
1,2-Dichloroethane	**0.047**	**J**	0.20	0.043	ug/L			12/13/23 20:34	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/23 20:34	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/23 20:34	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/13/23 20:34	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/23 20:34	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/23 20:34	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/23 20:34	1
Toluene	**0.052**	**J**	0.20	0.050	ug/L			12/13/23 20:34	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/23 20:34	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/23 20:34	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/13/23 20:34	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/23 20:34	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/13/23 20:34	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/13/23 20:34	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/13/23 20:34	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/13/23 20:34	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/23 20:34	1
o-Xylene	ND		0.50	0.15	ug/L			12/13/23 20:34	1
Styrene	ND		1.0	0.19	ug/L			12/13/23 20:34	1
Bromoform	ND		0.50	0.16	ug/L			12/13/23 20:34	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/13/23 20:34	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/23 20:34	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/23 20:34	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/23 20:34	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/23 20:34	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/23 20:34	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/23 20:34	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/13/23 20:34	1

Client Sample ID: PA-26d-121123
Lab Sample ID: 580-134815-15
Date Collected: 12/11/23 10:51
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/23 20:34	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/13/23 20:34	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/23 20:34	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/13/23 20:34	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 20:34	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 20:34	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/13/23 20:34	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/23 20:34	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/13/23 20:34	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/13/23 20:34	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/13/23 20:34	1
Naphthalene	ND		1.0	0.22	ug/L			12/13/23 20:34	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/13/23 20:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*12/13/23 20:34*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*12/13/23 20:34*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/13/23 20:34*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*12/13/23 20:34*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/21/23 15:49	1
Tetrachloroethene	ND		0.50	0.084	ug/L			12/21/23 15:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*12/21/23 15:49*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/21/23 15:49*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/21/23 15:49*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/21/23 15:49*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			12/15/23 18:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**27**		1.5	0.43	mg/L			12/13/23 22:10	1

Client Sample ID: PA-17iR-121123
Lab Sample ID: 580-134815-16

Date Collected: 12/11/23 13:48
Matrix: Water

Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		0.50	0.14	ug/L			12/13/23 20:55	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/23 20:55	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/23 20:55	1
Chloroethane	ND		0.50	0.096	ug/L			12/13/23 20:55	1
Carbon disulfide	**0.10**	**J**	0.30	0.083	ug/L			12/13/23 20:55	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/23 20:55	1
1,1-Dichloroethene	**0.17**	**J**	0.20	0.035	ug/L			12/13/23 20:55	1
Acetone	ND		10	3.1	ug/L			12/13/23 20:55	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/23 20:55	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/23 20:55	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/23 20:55	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/23 20:55	1
1,1-Dichloroethane	**0.065**	**J**	0.20	0.025	ug/L			12/13/23 20:55	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/23 20:55	1
cis-1,2-Dichloroethene	**0.055**	**J**	0.20	0.055	ug/L			12/13/23 20:55	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/23 20:55	1
Chloroform	ND		0.20	0.030	ug/L			12/13/23 20:55	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/23 20:55	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/23 20:55	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/23 20:55	1
Benzene	**0.067**	**J**	0.20	0.030	ug/L			12/13/23 20:55	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/13/23 20:55	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/23 20:55	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/23 20:55	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/13/23 20:55	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/23 20:55	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/23 20:55	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/23 20:55	1
Toluene	ND		0.20	0.050	ug/L			12/13/23 20:55	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/23 20:55	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/23 20:55	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/13/23 20:55	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/23 20:55	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/13/23 20:55	1
Chlorobenzene	**0.19**	**J B**	0.20	0.060	ug/L			12/13/23 20:55	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/13/23 20:55	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/13/23 20:55	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/23 20:55	1
o-Xylene	ND		0.50	0.15	ug/L			12/13/23 20:55	1
Styrene	ND		1.0	0.19	ug/L			12/13/23 20:55	1
Bromoform	ND		0.50	0.16	ug/L			12/13/23 20:55	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/13/23 20:55	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/23 20:55	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/23 20:55	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/23 20:55	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/23 20:55	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/23 20:55	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/23 20:55	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/13/23 20:55	1

Client Sample ID: PA-17iR-121123
Lab Sample ID: 580-134815-16
Date Collected: 12/11/23 13:48
Matrix: Water
Date Received: 12/12/23 11:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/23 20:55	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/13/23 20:55	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/23 20:55	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/13/23 20:55	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 20:55	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 20:55	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/13/23 20:55	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/23 20:55	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/13/23 20:55	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/13/23 20:55	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/13/23 20:55	1
Naphthalene	ND		1.0	0.22	ug/L			12/13/23 20:55	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/13/23 20:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*80 - 120*		*12/13/23 20:55*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*12/13/23 20:55*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*12/13/23 20:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 120*		*12/13/23 20:55*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/21/23 16:10	1
Tetrachloroethene	ND		0.50	0.084	ug/L			12/21/23 16:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*80 - 120*		*12/21/23 16:10*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*12/21/23 16:10*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/21/23 16:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/21/23 16:10*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		8.0	4.0	ug/L			12/15/23 17:57	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**20**		1.5	0.43	mg/L			12/13/23 22:21	1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-446157/7
Matrix: Water
Analysis Batch: 446157

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		0.50	0.14	ug/L			12/13/23 16:09	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/13/23 16:09	1
Bromomethane	ND		0.50	0.13	ug/L			12/13/23 16:09	1
Chloroethane	ND		0.50	0.096	ug/L			12/13/23 16:09	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/13/23 16:09	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/13/23 16:09	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/13/23 16:09	1
Acetone	ND		10	3.1	ug/L			12/13/23 16:09	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/13/23 16:09	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/13/23 16:09	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/13/23 16:09	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/13/23 16:09	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			12/13/23 16:09	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/13/23 16:09	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/13/23 16:09	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/13/23 16:09	1
Chloroform	ND		0.20	0.030	ug/L			12/13/23 16:09	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/13/23 16:09	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/13/23 16:09	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/13/23 16:09	1
Benzene	ND		0.20	0.030	ug/L			12/13/23 16:09	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/13/23 16:09	1
Trichloroethene	ND		0.20	0.066	ug/L			12/13/23 16:09	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/13/23 16:09	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/13/23 16:09	1
Dibromomethane	ND		0.20	0.062	ug/L			12/13/23 16:09	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/13/23 16:09	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/13/23 16:09	1
Toluene	ND		0.20	0.050	ug/L			12/13/23 16:09	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/13/23 16:09	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/13/23 16:09	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/13/23 16:09	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/13/23 16:09	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			12/13/23 16:09	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/13/23 16:09	1
Chlorobenzene	0.0785	J	0.20	0.060	ug/L			12/13/23 16:09	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/13/23 16:09	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/13/23 16:09	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/13/23 16:09	1
o-Xylene	ND		0.50	0.15	ug/L			12/13/23 16:09	1
Styrene	ND		1.0	0.19	ug/L			12/13/23 16:09	1
Bromoform	ND		0.50	0.16	ug/L			12/13/23 16:09	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/13/23 16:09	1
Bromobenzene	ND		0.20	0.038	ug/L			12/13/23 16:09	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/13/23 16:09	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/13/23 16:09	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/13/23 16:09	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/13/23 16:09	1

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

Lab Sample ID: MB 580-446157/7
Matrix: Water
Analysis Batch: 446157

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/13/23 16:09	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/13/23 16:09	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/13/23 16:09	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/13/23 16:09	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/13/23 16:09	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/13/23 16:09	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 16:09	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/13/23 16:09	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/13/23 16:09	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/13/23 16:09	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/13/23 16:09	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/13/23 16:09	1
Hexachlorobutadiene	0.0802	J	0.50	0.067	ug/L			12/13/23 16:09	1
Naphthalene	ND		1.0	0.22	ug/L			12/13/23 16:09	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/13/23 16:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/13/23 16:09*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/13/23 16:09*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/13/23 16:09*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*12/13/23 16:09*	*1*

Lab Sample ID: LCS 580-446157/4
Matrix: Water
Analysis Batch: 446157

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloromethane	5.00	4.39		ug/L		88	32 - 150
Vinyl chloride	5.00	4.74		ug/L		95	41 - 150
Bromomethane	5.00	4.29		ug/L		86	51 - 148
Chloroethane	5.00	4.49		ug/L		90	54 - 140
Carbon disulfide	5.00	4.09		ug/L		82	54 - 142
Trichlorofluoromethane	5.00	4.82		ug/L		96	60 - 132
1,1-Dichloroethene	5.00	4.66		ug/L		93	60 - 129
Acetone	25.0	28.5		ug/L		114	49 - 150
Methylene Chloride	5.00	4.68	J	ug/L		94	40 - 142
Methyl tert-butyl ether	5.00	5.06		ug/L		101	61 - 131
2-Butanone (MEK)	25.0	29.1		ug/L		116	37 - 150
trans-1,2-Dichloroethene	5.00	4.40		ug/L		88	69 - 121
1,1-Dichloroethane	5.00	4.72		ug/L		94	74 - 120
2,2-Dichloropropane	5.00	4.62		ug/L		92	55 - 140
cis-1,2-Dichloroethene	5.00	4.85		ug/L		97	72 - 120
Chlorobromomethane	5.00	4.94		ug/L		99	79 - 121
Chloroform	5.00	5.02		ug/L		100	75 - 120
1,1,1-Trichloroethane	5.00	4.81		ug/L		96	70 - 121
Carbon tetrachloride	5.00	4.62		ug/L		92	66 - 130
1,1-Dichloropropene	5.00	4.45		ug/L		89	72 - 125
Benzene	5.00	4.62		ug/L		92	80 - 120

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

Lab Sample ID: LCS 580-446157/4
Matrix: Water
Analysis Batch: 446157

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichloroethane	5.00	5.00		ug/L		100	74 - 127
Trichloroethene	5.00	4.66		ug/L		93	72 - 120
1,2-Dichloropropane	5.00	4.93		ug/L		99	69 - 130
4-Methyl-2-pentanone (MIBK)	25.0	24.9		ug/L		99	63 - 137
Dibromomethane	5.00	5.33		ug/L		107	65 - 141
Dichlorobromomethane	5.00	5.20		ug/L		104	74 - 131
cis-1,3-Dichloropropene	5.00	4.50		ug/L		90	77 - 131
Toluene	5.00	4.33		ug/L		87	80 - 126
trans-1,3-Dichloropropene	5.00	4.91		ug/L		98	71 - 138
1,1,2-Trichloroethane	5.00	4.98		ug/L		100	73 - 127
Tetrachloroethene	5.00	4.04		ug/L		81	75 - 124
1,3-Dichloropropane	5.00	4.76		ug/L		95	69 - 138
Chlorodibromomethane	5.00	5.03		ug/L		101	62 - 141
Ethylene Dibromide	5.00	4.70		ug/L		94	61 - 143
Chlorobenzene	5.00	4.69		ug/L		94	74 - 123
1,1,1,2-Tetrachloroethane	5.00	4.99		ug/L		100	69 - 127
Ethylbenzene	5.00	4.41		ug/L		88	80 - 124
m-Xylene & p-Xylene	5.00	4.47		ug/L		89	75 - 124
o-Xylene	5.00	4.41		ug/L		88	71 - 124
Styrene	5.00	4.65		ug/L		93	74 - 127
Bromoform	5.00	4.92		ug/L		98	48 - 127
Isopropylbenzene	5.00	4.54		ug/L		91	71 - 123
Bromobenzene	5.00	4.48		ug/L		90	74 - 130
1,1,2,2-Tetrachloroethane	5.00	4.84		ug/L		97	67 - 136
1,2,3-Trichloropropane	5.00	4.90		ug/L		98	67 - 135
N-Propylbenzene	5.00	4.26		ug/L		85	72 - 126
2-Chlorotoluene	5.00	4.34		ug/L		87	73 - 120
4-Chlorotoluene	5.00	4.39		ug/L		88	75 - 124
1,3,5-Trimethylbenzene	5.00	4.17		ug/L		83	75 - 123
tert-Butylbenzene	5.00	4.30		ug/L		86	70 - 129
1,2,4-Trimethylbenzene	5.00	4.24		ug/L		85	71 - 127
sec-Butylbenzene	5.00	4.32		ug/L		86	75 - 126
4-Isopropyltoluene	5.00	4.22		ug/L		84	78 - 125
1,3-Dichlorobenzene	5.00	4.52		ug/L		90	72 - 125
1,4-Dichlorobenzene	5.00	4.40		ug/L		88	71 - 129
n-Butylbenzene	5.00	4.12		ug/L		82	69 - 127
1,2-Dichlorobenzene	5.00	4.61		ug/L		92	72 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.45		ug/L		89	55 - 135
1,2,4-Trichlorobenzene	5.00	4.54		ug/L		91	60 - 130
Hexachlorobutadiene	5.00	4.60		ug/L		92	63 - 130
Naphthalene	5.00	4.36		ug/L		87	54 - 137
1,2,3-Trichlorobenzene	5.00	4.56		ug/L		91	60 - 136

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*

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

Lab Sample ID: LCSD 580-446157/5
Matrix: Water
Analysis Batch: 446157

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
Chloromethane			5.00	4.75		ug/L		95	32 - 150	8	33
Vinyl chloride			5.00	5.19		ug/L		104	41 - 150	9	32
Bromomethane			5.00	4.52		ug/L		90	51 - 148	5	35
Chloroethane			5.00	5.27		ug/L		105	54 - 140	16	33
Carbon disulfide			5.00	4.47		ug/L		89	54 - 142	9	34
Trichlorofluoromethane			5.00	5.71		ug/L		114	60 - 132	17	32
1,1-Dichloroethene			5.00	5.13		ug/L		103	60 - 129	10	29
Acetone			25.0	30.0		ug/L		120	49 - 150	5	24
Methylene Chloride			5.00	5.16		ug/L		103	40 - 142	10	25
Methyl tert-butyl ether			5.00	5.60		ug/L		112	61 - 131	10	27
2-Butanone (MEK)			25.0	30.7		ug/L		123	37 - 150	5	35
trans-1,2-Dichloroethene			5.00	4.95		ug/L		99	69 - 121	12	27
1,1-Dichloroethane			5.00	5.18		ug/L		104	74 - 120	9	26
2,2-Dichloropropane			5.00	4.94		ug/L		99	55 - 140	7	31
cis-1,2-Dichloroethene			5.00	5.39		ug/L		108	72 - 120	11	22
Chlorobromomethane			5.00	5.34		ug/L		107	79 - 121	8	20
Chloroform			5.00	5.44		ug/L		109	75 - 120	8	21
1,1,1-Trichloroethane			5.00	5.13		ug/L		103	70 - 121	6	24
Carbon tetrachloride			5.00	5.03		ug/L		101	66 - 130	8	24
1,1-Dichloropropene			5.00	4.85		ug/L		97	72 - 125	9	23
Benzene			5.00	5.12		ug/L		102	80 - 120	10	22
1,2-Dichloroethane			5.00	5.36		ug/L		107	74 - 127	7	21
Trichloroethene			5.00	5.16		ug/L		103	72 - 120	10	22
1,2-Dichloropropane			5.00	5.67		ug/L		113	69 - 130	14	22
4-Methyl-2-pentanone (MIBK)			25.0	27.7		ug/L		111	63 - 137	11	26
Dibromomethane			5.00	5.87		ug/L		117	65 - 141	10	22
Dichlorobromomethane			5.00	5.49		ug/L		110	74 - 131	5	21
cis-1,3-Dichloropropene			5.00	4.88		ug/L		98	77 - 131	8	24
Toluene			5.00	4.77		ug/L		95	80 - 126	10	20
trans-1,3-Dichloropropene			5.00	5.22		ug/L		104	71 - 138	6	26
1,1,2-Trichloroethane			5.00	5.37		ug/L		107	73 - 127	8	22
Tetrachloroethene			5.00	4.34		ug/L		87	75 - 124	7	20
1,3-Dichloropropane			5.00	5.15		ug/L		103	69 - 138	8	19
Chlorodibromomethane			5.00	5.51		ug/L		110	62 - 141	9	22
Ethylene Dibromide			5.00	5.15		ug/L		103	61 - 143	9	22
Chlorobenzene			5.00	5.03		ug/L		101	74 - 123	7	21
1,1,1,2-Tetrachloroethane			5.00	5.36		ug/L		107	69 - 127	7	22
Ethylbenzene			5.00	4.83		ug/L		97	80 - 124	9	22
m-Xylene & p-Xylene			5.00	4.81		ug/L		96	75 - 124	7	22
o-Xylene			5.00	4.86		ug/L		97	71 - 124	10	23
Styrene			5.00	5.04		ug/L		101	74 - 127	8	22
Bromoform			5.00	5.25		ug/L		105	48 - 127	7	23
Isopropylbenzene			5.00	5.08		ug/L		102	71 - 123	11	23
Bromobenzene			5.00	4.98		ug/L		100	74 - 130	11	23
1,1,2,2-Tetrachloroethane			5.00	5.48		ug/L		110	67 - 136	12	24
1,2,3-Trichloropropane			5.00	5.50		ug/L		110	67 - 135	11	25
N-Propylbenzene			5.00	4.69		ug/L		94	72 - 126	10	20
2-Chlorotoluene			5.00	4.77		ug/L		95	73 - 120	10	22

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

Lab Sample ID: LCSD 580-446157/5
Matrix: Water
Analysis Batch: 446157

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
4-Chlorotoluene			5.00	4.91		ug/L		98	75 - 124	11	23
1,3,5-Trimethylbenzene			5.00	4.67		ug/L		93	75 - 123	11	23
tert-Butylbenzene			5.00	4.83		ug/L		97	70 - 129	12	24
1,2,4-Trimethylbenzene			5.00	4.63		ug/L		93	71 - 127	9	23
sec-Butylbenzene			5.00	4.75		ug/L		95	75 - 126	10	23
4-Isopropyltoluene			5.00	4.68		ug/L		94	78 - 125	10	24
1,3-Dichlorobenzene			5.00	4.96		ug/L		99	72 - 125	9	22
1,4-Dichlorobenzene			5.00	4.86		ug/L		97	71 - 129	10	22
n-Butylbenzene			5.00	4.61		ug/L		92	69 - 127	11	24
1,2-Dichlorobenzene			5.00	5.02		ug/L		100	72 - 129	9	22
1,2-Dibromo-3-Chloropropane			5.00	5.11		ug/L		102	55 - 135	14	29
1,2,4-Trichlorobenzene			5.00	4.87		ug/L		97	60 - 130	7	26
Hexachlorobutadiene			5.00	4.95		ug/L		99	63 - 130	7	26
Naphthalene			5.00	4.76		ug/L		95	54 - 137	9	28
1,2,3-Trichlorobenzene			5.00	4.89		ug/L		98	60 - 136	7	28

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 580-446252/7
Matrix: Water
Analysis Batch: 446252

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/14/23 15:33	1
Chloromethane	ND		1.0	0.28	ug/L			12/14/23 15:33	1
Vinyl chloride	ND		1.0	0.22	ug/L			12/14/23 15:33	1
Bromomethane	ND		1.0	0.21	ug/L			12/14/23 15:33	1
Chloroethane	ND		1.0	0.35	ug/L			12/14/23 15:33	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/14/23 15:33	1
Carbon disulfide	ND		1.0	0.53	ug/L			12/14/23 15:33	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			12/14/23 15:33	1
Acetone	ND		15	3.2	ug/L			12/14/23 15:33	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/14/23 15:33	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/14/23 15:33	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/14/23 15:33	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			12/14/23 15:33	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/14/23 15:33	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/14/23 15:33	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			12/14/23 15:33	1
Bromochloromethane	ND		1.0	0.29	ug/L			12/14/23 15:33	1
Chloroform	ND		1.0	0.26	ug/L			12/14/23 15:33	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/14/23 15:33	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/14/23 15:33	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/14/23 15:33	1

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

Lab Sample ID: MB 580-446252/7
Matrix: Water
Analysis Batch: 446252

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.24	ug/L			12/14/23 15:33	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			12/14/23 15:33	1
Trichloroethene	ND		1.0	0.26	ug/L			12/14/23 15:33	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			12/14/23 15:33	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/14/23 15:33	1
Dibromomethane	ND		1.0	0.34	ug/L			12/14/23 15:33	1
Bromodichloromethane	ND		1.0	0.29	ug/L			12/14/23 15:33	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/14/23 15:33	1
Toluene	ND		1.0	0.39	ug/L			12/14/23 15:33	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/14/23 15:33	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			12/14/23 15:33	1
Tetrachloroethene	ND		1.0	0.41	ug/L			12/14/23 15:33	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/14/23 15:33	1
Dibromochloromethane	ND		1.0	0.43	ug/L			12/14/23 15:33	1
1,2-Dibromoethane	ND		1.0	0.40	ug/L			12/14/23 15:33	1
Chlorobenzene	ND		1.0	0.44	ug/L			12/14/23 15:33	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			12/14/23 15:33	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/14/23 15:33	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/14/23 15:33	1
o-Xylene	ND		1.0	0.39	ug/L			12/14/23 15:33	1
Styrene	ND		1.0	0.53	ug/L			12/14/23 15:33	1
Bromoform	ND		1.0	0.51	ug/L			12/14/23 15:33	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/14/23 15:33	1
Bromobenzene	ND		1.0	0.43	ug/L			12/14/23 15:33	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			12/14/23 15:33	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/14/23 15:33	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/14/23 15:33	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/14/23 15:33	1
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/14/23 15:33	1
t-Butylbenzene	ND		2.0	0.58	ug/L			12/14/23 15:33	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/14/23 15:33	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/14/23 15:33	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/14/23 15:33	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/14/23 15:33	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/14/23 15:33	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/14/23 15:33	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/14/23 15:33	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/14/23 15:33	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/14/23 15:33	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/14/23 15:33	1
Naphthalene	ND		3.0	0.93	ug/L			12/14/23 15:33	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/14/23 15:33	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			12/14/23 15:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*12/14/23 15:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/14/23 15:33*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/14/23 15:33*	*1*

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

Lab Sample ID: MB 580-446252/7
Matrix: Water
Analysis Batch: 446252

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*12/14/23 15:33*	*1*

Lab Sample ID: LCS 580-446252/4
Matrix: Water
Analysis Batch: 446252

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	5.00	4.28		ug/L		86	20 - 150
Chloromethane	5.00	5.04		ug/L		101	25 - 150
Vinyl chloride	5.00	5.04		ug/L		101	31 - 150
Bromomethane	5.00	4.70		ug/L		94	36 - 150
Chloroethane	5.00	5.10		ug/L		102	38 - 150
Trichlorofluoromethane	5.00	5.09		ug/L		102	45 - 148
Carbon disulfide	5.00	3.82		ug/L		76	63 - 134
1,1-Dichloroethene	5.00	4.33		ug/L		87	70 - 129
Acetone	25.0	33.2		ug/L		133	44 - 150
Methylene Chloride	5.00	4.61	J	ug/L		92	77 - 125
Methyl tert-butyl ether	5.00	4.97		ug/L		99	72 - 120
trans-1,2-Dichloroethene	5.00	4.34		ug/L		87	75 - 120
1,1-Dichloroethane	5.00	4.71		ug/L		94	80 - 120
2-Butanone (MEK)	25.0	29.8		ug/L		119	65 - 137
2,2-Dichloropropane	5.00	4.44		ug/L		89	66 - 126
cis-1,2-Dichloroethene	5.00	4.71		ug/L		94	76 - 120
Bromochloromethane	5.00	4.71		ug/L		94	78 - 120
Chloroform	5.00	4.98		ug/L		100	78 - 127
1,1,1-Trichloroethane	5.00	4.58		ug/L		92	74 - 130
Carbon tetrachloride	5.00	4.44		ug/L		89	72 - 129
1,1-Dichloropropene	5.00	4.27		ug/L		85	74 - 120
Benzene	5.00	4.51		ug/L		90	80 - 122
1,2-Dichloroethane	5.00	4.67		ug/L		93	69 - 126
Trichloroethene	5.00	4.52		ug/L		90	80 - 125
1,2-Dichloropropane	5.00	4.57		ug/L		91	80 - 120
4-Methyl-2-pentanone (MIBK)	25.0	26.7		ug/L		107	59 - 141
Dibromomethane	5.00	5.11		ug/L		102	80 - 120
Bromodichloromethane	5.00	5.07		ug/L		101	75 - 124
cis-1,3-Dichloropropene	5.00	4.67		ug/L		93	77 - 120
Toluene	5.00	4.50		ug/L		90	80 - 120
trans-1,3-Dichloropropene	5.00	5.02		ug/L		100	76 - 122
1,1,2-Trichloroethane	5.00	5.33		ug/L		107	80 - 121
Tetrachloroethene	5.00	4.27		ug/L		85	76 - 125
1,3-Dichloropropane	5.00	4.98		ug/L		100	79 - 120
Dibromochloromethane	5.00	5.23		ug/L		105	73 - 125
1,2-Dibromoethane	5.00	4.96		ug/L		99	79 - 126
Chlorobenzene	5.00	4.74		ug/L		95	80 - 120
1,1,1,2-Tetrachloroethane	5.00	4.84		ug/L		97	79 - 120
Ethylbenzene	5.00	4.53		ug/L		91	80 - 120
m-Xylene & p-Xylene	5.00	4.50		ug/L		90	80 - 120
o-Xylene	5.00	4.45		ug/L		89	80 - 120

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

Lab Sample ID: LCS 580-446252/4
Matrix: Water
Analysis Batch: 446252

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Styrene	5.00	4.73		ug/L		95	76 - 122
Bromoform	5.00	4.84		ug/L		97	56 - 139
Isopropylbenzene	5.00	4.53		ug/L		91	80 - 123
Bromobenzene	5.00	4.61		ug/L		92	80 - 120
1,1,2,2-Tetrachloroethane	5.00	5.09		ug/L		102	74 - 124
1,2,3-Trichloropropane	5.00	5.26		ug/L		105	76 - 124
N-Propylbenzene	5.00	4.38		ug/L		88	80 - 122
2-Chlorotoluene	5.00	4.51		ug/L		90	80 - 120
4-Chlorotoluene	5.00	4.52		ug/L		90	73 - 129
t-Butylbenzene	5.00	4.38		ug/L		88	75 - 123
1,2,4-Trimethylbenzene	5.00	4.30		ug/L		86	80 - 120
sec-Butylbenzene	5.00	4.29		ug/L		86	78 - 122
4-Isopropyltoluene	5.00	4.23		ug/L		85	77 - 126
1,3-Dichlorobenzene	5.00	4.60		ug/L		92	77 - 127
1,4-Dichlorobenzene	5.00	4.66		ug/L		93	80 - 120
n-Butylbenzene	5.00	4.31		ug/L		86	57 - 133
1,2-Dichlorobenzene	5.00	4.78		ug/L		96	80 - 120
1,2-Dibromo-3-Chloropropane	5.00	4.89		ug/L		98	65 - 133
1,2,4-Trichlorobenzene	5.00	4.87		ug/L		97	61 - 148
Hexachlorobutadiene	5.00	4.53		ug/L		91	74 - 131
Naphthalene	5.00	4.96		ug/L		99	63 - 150
1,2,3-Trichlorobenzene	5.00	5.06		ug/L		101	65 - 150
1,3,5-Trimethylbenzene	5.00	4.26		ug/L		85	80 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*

Lab Sample ID: LCSD 580-446252/5
Matrix: Water
Analysis Batch: 446252

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
Dichlorodifluoromethane	5.00	4.84		ug/L		97	20 - 150	12	33
Chloromethane	5.00	5.41		ug/L		108	25 - 150	7	26
Vinyl chloride	5.00	5.58		ug/L		112	31 - 150	10	26
Bromomethane	5.00	5.27		ug/L		105	36 - 150	11	33
Chloroethane	5.00	5.41		ug/L		108	38 - 150	6	28
Trichlorofluoromethane	5.00	5.39		ug/L		108	45 - 148	6	35
Carbon disulfide	5.00	4.16		ug/L		83	63 - 134	8	24
1,1-Dichloroethene	5.00	4.54		ug/L		91	70 - 129	5	23
Acetone	25.0	23.0	*1	ug/L		92	44 - 150	36	33
Methylene Chloride	5.00	5.00		ug/L		100	77 - 125	8	18
Methyl tert-butyl ether	5.00	5.26		ug/L		105	72 - 120	5	18
trans-1,2-Dichloroethene	5.00	4.65		ug/L		93	75 - 120	7	21
1,1-Dichloroethane	5.00	5.02		ug/L		100	80 - 120	7	15

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

Lab Sample ID: LCSD 580-446252/5
Matrix: Water
Analysis Batch: 446252

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
2-Butanone (MEK)	25.0	24.7		ug/L		99	65 - 137	19	34
2,2-Dichloropropane	5.00	5.38		ug/L		108	66 - 126	19	22
cis-1,2-Dichloroethene	5.00	4.97		ug/L		99	76 - 120	5	20
Bromochloromethane	5.00	4.81		ug/L		96	78 - 120	2	13
Chloroform	5.00	5.14		ug/L		103	78 - 127	3	14
1,1,1-Trichloroethane	5.00	4.86		ug/L		97	74 - 130	6	19
Carbon tetrachloride	5.00	4.59		ug/L		92	72 - 129	3	19
1,1-Dichloropropene	5.00	4.21		ug/L		84	74 - 120	2	14
Benzene	5.00	4.48		ug/L		90	80 - 122	1	14
1,2-Dichloroethane	5.00	4.55		ug/L		91	69 - 126	3	11
Trichloroethene	5.00	4.37		ug/L		87	80 - 125	3	13
1,2-Dichloropropane	5.00	4.39		ug/L		88	80 - 120	4	14
4-Methyl-2-pentanone (MIBK)	25.0	25.4		ug/L		102	59 - 141	5	22
Dibromomethane	5.00	5.00		ug/L		100	80 - 120	2	11
Bromodichloromethane	5.00	4.85		ug/L		97	75 - 124	4	13
cis-1,3-Dichloropropene	5.00	4.48		ug/L		90	77 - 120	4	35
Toluene	5.00	4.37		ug/L		87	80 - 120	3	13
trans-1,3-Dichloropropene	5.00	4.66		ug/L		93	76 - 122	7	20
1,1,2-Trichloroethane	5.00	5.09		ug/L		102	80 - 121	5	14
Tetrachloroethene	5.00	4.21		ug/L		84	76 - 125	2	13
1,3-Dichloropropane	5.00	4.68		ug/L		94	79 - 120	6	19
Dibromochloromethane	5.00	4.96		ug/L		99	73 - 125	5	13
1,2-Dibromoethane	5.00	4.86		ug/L		97	79 - 126	2	12
Chlorobenzene	5.00	4.57		ug/L		91	80 - 120	4	10
1,1,1,2-Tetrachloroethane	5.00	5.04		ug/L		101	79 - 120	4	16
Ethylbenzene	5.00	4.47		ug/L		89	80 - 120	1	14
m-Xylene & p-Xylene	5.00	4.42		ug/L		88	80 - 120	2	14
o-Xylene	5.00	4.44		ug/L		89	80 - 120	0	16
Styrene	5.00	4.57		ug/L		91	76 - 122	3	16
Bromoform	5.00	4.69		ug/L		94	56 - 139	3	21
Isopropylbenzene	5.00	4.52		ug/L		90	80 - 123	0	19
Bromobenzene	5.00	4.54		ug/L		91	80 - 120	2	24
1,1,2,2-Tetrachloroethane	5.00	4.98		ug/L		100	74 - 124	2	25
1,2,3-Trichloropropane	5.00	5.36		ug/L		107	76 - 124	2	26
N-Propylbenzene	5.00	4.28		ug/L		86	80 - 122	2	22
2-Chlorotoluene	5.00	4.40		ug/L		88	80 - 120	3	20
4-Chlorotoluene	5.00	4.52		ug/L		90	73 - 129	0	29
t-Butylbenzene	5.00	4.33		ug/L		87	75 - 123	1	21
1,2,4-Trimethylbenzene	5.00	4.24		ug/L		85	80 - 120	1	16
sec-Butylbenzene	5.00	4.30		ug/L		86	78 - 122	0	15
4-Isopropyltoluene	5.00	4.24		ug/L		85	77 - 126	0	20
1,3-Dichlorobenzene	5.00	4.63		ug/L		93	77 - 127	1	35
1,4-Dichlorobenzene	5.00	4.61		ug/L		92	80 - 120	1	17
n-Butylbenzene	5.00	4.23		ug/L		85	57 - 133	2	14
1,2-Dichlorobenzene	5.00	4.77		ug/L		95	80 - 120	0	15
1,2-Dibromo-3-Chloropropane	5.00	4.92		ug/L		98	65 - 133	1	25
1,2,4-Trichlorobenzene	5.00	4.88		ug/L		98	61 - 148	0	27
Hexachlorobutadiene	5.00	4.47		ug/L		89	74 - 131	1	22
Naphthalene	5.00	5.30		ug/L		106	63 - 150	7	33

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

Lab Sample ID: LCSD 580-446252/5
Matrix: Water
Analysis Batch: 446252

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
1,2,3-Trichlorobenzene			5.00	4.98		ug/L		100	65 - 150	2	33
1,3,5-Trimethylbenzene			5.00	4.28		ug/L		86	80 - 122	0	21

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*105*		*80 - 120*

Lab Sample ID: MB 580-446555/7
Matrix: Water
Analysis Batch: 446555

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/18/23 20:30	1
Tetrachloroethene	ND		0.50	0.084	ug/L			12/18/23 20:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*12/18/23 20:30*	*1*
Dibromofluoromethane (Surr)	*105*		*80 - 120*		*12/18/23 20:30*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*12/18/23 20:30*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*12/18/23 20:30*	*1*

Lab Sample ID: LCS 580-446555/4
Matrix: Water
Analysis Batch: 446555

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane			5.00	3.84		ug/L		77	20 - 150
Tetrachloroethene			5.00	4.12		ug/L		82	75 - 124

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*105*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*

Lab Sample ID: LCSD 580-446555/5
Matrix: Water
Analysis Batch: 446555

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
Dichlorodifluoromethane			5.00	3.79		ug/L		76	20 - 150	1	30
Tetrachloroethene			5.00	3.96		ug/L		79	75 - 124	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*

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

Lab Sample ID: LCSD 580-446555/5
Matrix: Water
Analysis Batch: 446555

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

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Dibromofluoromethane (Surr)	*105*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*

Lab Sample ID: 580-134815-10 MS
Matrix: Water
Analysis Batch: 446555

Client Sample ID: MWA-31i(d)-121123
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	ND		5.00	4.37		ug/L		87	20 - 150
Chloromethane	ND		5.00	5.91		ug/L		118	25 - 150
Vinyl chloride	ND		5.00	5.98		ug/L		120	31 - 150
Bromomethane	ND		5.00	5.18		ug/L		104	36 - 150
Chloroethane	ND		5.00	5.89		ug/L		118	38 - 150
Trichlorofluoromethane	ND		5.00	5.93		ug/L		119	45 - 148
Carbon disulfide	ND		5.00	4.53		ug/L		91	63 - 134
1,1-Dichloroethene	ND		5.00	5.05		ug/L		101	70 - 129
Acetone	ND		25.0	26.1		ug/L		104	44 - 150
Methylene Chloride	ND		5.00	6.03		ug/L		121	77 - 125
Methyl tert-butyl ether	ND		5.00	5.74		ug/L		115	72 - 120
trans-1,2-Dichloroethene	ND		5.00	5.07		ug/L		101	75 - 120
1,1-Dichloroethane	0.31	J	5.00	5.57		ug/L		105	80 - 120
2-Butanone (MEK)	ND		25.0	25.8		ug/L		103	65 - 137
2,2-Dichloropropane	ND		5.00	4.22		ug/L		84	66 - 126
cis-1,2-Dichloroethene	ND		5.00	5.15		ug/L		103	76 - 120
Bromochloromethane	ND		5.00	5.11		ug/L		102	78 - 120
Chloroform	41		5.00	47.3	4	ug/L		130	78 - 127
1,1,1-Trichloroethane	ND		5.00	5.13		ug/L		103	74 - 130
Carbon tetrachloride	ND		5.00	4.95		ug/L		99	72 - 129
1,1-Dichloropropene	ND		5.00	4.63		ug/L		93	74 - 120
Benzene	ND		5.00	4.80		ug/L		96	80 - 122
1,2-Dichloroethane	ND		5.00	4.68		ug/L		94	69 - 126
Trichloroethene	ND		5.00	4.59		ug/L		92	80 - 125
1,2-Dichloropropane	ND		5.00	4.42		ug/L		88	80 - 120
4-Methyl-2-pentanone (MIBK)	ND		25.0	31.5		ug/L		126	59 - 141
Dibromomethane	ND		5.00	5.25		ug/L		105	80 - 120
Bromodichloromethane	ND		5.00	4.90		ug/L		98	75 - 124
cis-1,3-Dichloropropene	ND		5.00	4.43		ug/L		89	77 - 120
Toluene	ND		5.00	4.59		ug/L		92	80 - 120
trans-1,3-Dichloropropene	ND		5.00	4.73		ug/L		95	76 - 122
1,1,2-Trichloroethane	ND		5.00	5.40		ug/L		108	80 - 121
Tetrachloroethene	ND		5.00	4.55		ug/L		91	76 - 125
1,3-Dichloropropane	ND		5.00	5.07		ug/L		101	79 - 120
Dibromochloromethane	ND		5.00	5.30		ug/L		106	73 - 125
1,2-Dibromoethane	ND		5.00	5.12		ug/L		102	79 - 126
Chlorobenzene	ND		5.00	5.06		ug/L		101	80 - 120
1,1,1,2-Tetrachloroethane	ND		5.00	5.10		ug/L		102	79 - 120
Ethylbenzene	ND		5.00	4.70		ug/L		94	80 - 120

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

Lab Sample ID: 580-134815-10 MS
Matrix: Water
Analysis Batch: 446555

Client Sample ID: MWA-31i(d)-121123
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
m-Xylene & p-Xylene	ND		5.00	4.57		ug/L		91	80 - 120
o-Xylene	ND		5.00	4.67		ug/L		93	80 - 120
Styrene	ND	F1	5.00	ND	F1	ug/L		0	76 - 122
Bromoform	ND		5.00	5.07		ug/L		101	56 - 139
Isopropylbenzene	ND		5.00	4.66		ug/L		93	80 - 123
Bromobenzene	ND		5.00	4.78		ug/L		96	80 - 120
1,1,2,2-Tetrachloroethane	ND		5.00	5.80		ug/L		116	74 - 124
1,2,3-Trichloropropane	ND		5.00	5.86		ug/L		117	76 - 124
N-Propylbenzene	ND		5.00	4.53		ug/L		91	80 - 122
2-Chlorotoluene	ND		5.00	4.63		ug/L		93	80 - 120
4-Chlorotoluene	ND		5.00	4.51		ug/L		90	73 - 129
t-Butylbenzene	ND		5.00	4.30		ug/L		86	75 - 123
1,2,4-Trimethylbenzene	ND		5.00	4.31		ug/L		86	80 - 120
sec-Butylbenzene	ND		5.00	4.44		ug/L		89	78 - 122
4-Isopropyltoluene	ND		5.00	4.30		ug/L		86	77 - 126
1,3-Dichlorobenzene	ND		5.00	4.66		ug/L		93	77 - 127
1,4-Dichlorobenzene	ND		5.00	4.76		ug/L		95	80 - 120
n-Butylbenzene	ND		5.00	4.53		ug/L		91	57 - 133
1,2-Dichlorobenzene	ND		5.00	5.12		ug/L		102	80 - 120
1,2-Dibromo-3-Chloropropane	ND		5.00	5.94		ug/L		119	65 - 133
1,2,4-Trichlorobenzene	ND		5.00	5.28		ug/L		106	61 - 148
Hexachlorobutadiene	ND		5.00	4.92		ug/L		98	74 - 131
Naphthalene	ND		5.00	6.13		ug/L		123	63 - 150
1,2,3-Trichlorobenzene	ND		5.00	5.60		ug/L		112	65 - 150
1,3,5-Trimethylbenzene	ND	F1	5.00	2.66	F1	ug/L		53	80 - 122

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*108*		*80 - 120*

Lab Sample ID: 580-134815-10 MSD
Matrix: Water
Analysis Batch: 446555

Client Sample ID: MWA-31i(d)-121123
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dichlorodifluoromethane	ND		5.00	4.40		ug/L		88	20 - 150	1	33
Chloromethane	ND		5.00	5.89		ug/L		118	25 - 150	0	26
Vinyl chloride	ND		5.00	6.09		ug/L		122	31 - 150	2	26
Bromomethane	ND		5.00	5.28		ug/L		106	36 - 150	2	33
Chloroethane	ND		5.00	6.11		ug/L		122	38 - 150	4	28
Trichlorofluoromethane	ND		5.00	5.98		ug/L		120	45 - 148	1	35
Carbon disulfide	ND		5.00	4.60		ug/L		92	63 - 134	1	24
1,1-Dichloroethene	ND		5.00	5.31		ug/L		106	70 - 129	5	23
Acetone	ND		25.0	31.5		ug/L		126	44 - 150	19	33
Methylene Chloride	ND		5.00	6.02		ug/L		120	77 - 125	0	18
Methyl tert-butyl ether	ND		5.00	5.68		ug/L		114	72 - 120	1	18

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

Lab Sample ID: 580-134815-10 MSD
Client Sample ID: MWA-31i(d)-121123
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 446555

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
trans-1,2-Dichloroethene	ND		5.00	5.18		ug/L		104	75 - 120	2	21
1,1-Dichloroethane	0.31	J	5.00	5.55		ug/L		105	80 - 120	0	15
2-Butanone (MEK)	ND		25.0	29.9		ug/L		120	65 - 137	15	34
2,2-Dichloropropane	ND		5.00	4.20		ug/L		84	66 - 126	0	22
cis-1,2-Dichloroethene	ND		5.00	5.29		ug/L		106	76 - 120	3	20
Bromochloromethane	ND		5.00	5.15		ug/L		103	78 - 120	1	13
Chloroform	41		5.00	45.1	4	ug/L		87	78 - 127	5	14
1,1,1-Trichloroethane	ND		5.00	5.20		ug/L		104	74 - 130	1	19
Carbon tetrachloride	ND		5.00	4.91		ug/L		98	72 - 129	1	19
1,1-Dichloropropene	ND		5.00	4.50		ug/L		90	74 - 120	3	14
Benzene	ND		5.00	4.86		ug/L		97	80 - 122	1	14
1,2-Dichloroethane	ND		5.00	4.76		ug/L		95	69 - 126	2	11
Trichloroethene	ND		5.00	4.68		ug/L		94	80 - 125	2	13
1,2-Dichloropropane	ND		5.00	4.59		ug/L		92	80 - 120	4	14
4-Methyl-2-pentanone (MIBK)	ND		25.0	32.1		ug/L		128	59 - 141	2	22
Dibromomethane	ND		5.00	5.11		ug/L		102	80 - 120	3	11
Bromodichloromethane	ND		5.00	4.97		ug/L		99	75 - 124	2	13
cis-1,3-Dichloropropene	ND		5.00	4.37		ug/L		87	77 - 120	2	35
Toluene	ND		5.00	4.54		ug/L		91	80 - 120	1	13
trans-1,3-Dichloropropene	ND		5.00	4.82		ug/L		96	76 - 122	2	20
1,1,2-Trichloroethane	ND		5.00	5.36		ug/L		107	80 - 121	1	14
Tetrachloroethene	ND		5.00	4.52		ug/L		90	76 - 125	1	13
1,3-Dichloropropane	ND		5.00	5.22		ug/L		104	79 - 120	3	19
Dibromochloromethane	ND		5.00	5.26		ug/L		105	73 - 125	1	13
1,2-Dibromoethane	ND		5.00	5.30		ug/L		106	79 - 126	3	12
Chlorobenzene	ND		5.00	5.02		ug/L		100	80 - 120	1	10
1,1,1,2-Tetrachloroethane	ND		5.00	4.80		ug/L		96	79 - 120	6	16
Ethylbenzene	ND		5.00	4.80		ug/L		96	80 - 120	2	14
m-Xylene & p-Xylene	ND		5.00	4.64		ug/L		93	80 - 120	2	14
o-Xylene	ND		5.00	4.70		ug/L		94	80 - 120	1	16
Styrene	ND	F1	5.00	ND	F1	ug/L		0	76 - 122	NC	16
Bromoform	ND		5.00	5.16		ug/L		103	56 - 139	2	21
Isopropylbenzene	ND		5.00	4.71		ug/L		94	80 - 123	1	19
Bromobenzene	ND		5.00	4.60		ug/L		92	80 - 120	4	24
1,1,2,2-Tetrachloroethane	ND		5.00	5.68		ug/L		114	74 - 124	2	25
1,2,3-Trichloropropane	ND		5.00	5.75		ug/L		115	76 - 124	2	26
N-Propylbenzene	ND		5.00	4.46		ug/L		89	80 - 122	2	22
2-Chlorotoluene	ND		5.00	4.50		ug/L		90	80 - 120	3	20
4-Chlorotoluene	ND		5.00	4.45		ug/L		89	73 - 129	1	29
t-Butylbenzene	ND		5.00	4.18		ug/L		84	75 - 123	3	21
1,2,4-Trimethylbenzene	ND		5.00	4.28		ug/L		86	80 - 120	1	16
sec-Butylbenzene	ND		5.00	4.28		ug/L		86	78 - 122	4	15
4-Isopropyltoluene	ND		5.00	4.19		ug/L		84	77 - 126	3	20
1,3-Dichlorobenzene	ND		5.00	4.69		ug/L		94	77 - 127	1	35
1,4-Dichlorobenzene	ND		5.00	4.70		ug/L		94	80 - 120	1	17
n-Butylbenzene	ND		5.00	4.33		ug/L		87	57 - 133	4	14
1,2-Dichlorobenzene	ND		5.00	5.12		ug/L		102	80 - 120	0	15
1,2-Dibromo-3-Chloropropane	ND		5.00	5.61		ug/L		112	65 - 133	6	25
1,2,4-Trichlorobenzene	ND		5.00	5.81		ug/L		116	61 - 148	10	27

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

Lab Sample ID: 580-134815-10 MSD
Matrix: Water
Analysis Batch: 446555

Client Sample ID: MWA-31i(d)-121123
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexachlorobutadiene	ND		5.00	5.07		ug/L		101	74 - 131	3	22
Naphthalene	ND		5.00	7.06		ug/L		141	63 - 150	14	33
1,2,3-Trichlorobenzene	ND		5.00	6.70		ug/L		134	65 - 150	18	33
1,3,5-Trimethylbenzene	ND	F1	5.00	2.43	F1	ug/L		49	80 - 122	9	21

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*107*		*80 - 120*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*108*		*80 - 120*

Lab Sample ID: MB 580-446849/7
Matrix: Water
Analysis Batch: 446849

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/21/23 14:08	1
Tetrachloroethene	ND		0.50	0.084	ug/L			12/21/23 14:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*12/21/23 14:08*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*12/21/23 14:08*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/21/23 14:08*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*12/21/23 14:08*	*1*

Lab Sample ID: LCS 580-446849/4
Matrix: Water
Analysis Batch: 446849

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Dichlorodifluoromethane			5.00	3.37		ug/L		67	20 - 150		
Tetrachloroethene			5.00	4.36		ug/L		87	75 - 124		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*

Lab Sample ID: LCSD 580-446849/5
Matrix: Water
Analysis Batch: 446849

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
Dichlorodifluoromethane			5.00	3.38		ug/L		68	20 - 150	0	30
Tetrachloroethene			5.00	4.29		ug/L		86	75 - 124	2	20

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

Lab Sample ID: LCSD 580-446849/5
Matrix: Water
Analysis Batch: 446849

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

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 320-727898/5
Matrix: Water
Analysis Batch: 727898

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			12/15/23 13:11	1

Lab Sample ID: LCS 320-727898/6
Matrix: Water
Analysis Batch: 727898

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	49.9	51.6		ug/L		103	85 - 115

Lab Sample ID: MRL 320-727898/4
Matrix: Water
Analysis Batch: 727898

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	3.99	3.82	J	ug/L		96	75 - 125

Lab Sample ID: MB 320-728701/12
Matrix: Water
Analysis Batch: 728701

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			12/18/23 18:26	1

Lab Sample ID: LCS 320-728701/13
Matrix: Water
Analysis Batch: 728701

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	49.9	51.8		ug/L		104	85 - 115

Lab Sample ID: MRL 320-728701/11
Matrix: Water
Analysis Batch: 728701

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	3.99	4.21		ug/L		106	75 - 125

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: 580-134815-10 MS
Matrix: Water
Analysis Batch: 728701

Client Sample ID: MWA-31i(d)-121123
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	28000		99800	135000		ug/L		107	80 - 120

Lab Sample ID: 580-134815-10 MSD
Matrix: Water
Analysis Batch: 728701

Client Sample ID: MWA-31i(d)-121123
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	28000		99800	135000		ug/L		107	80 - 120	0	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-446236/3
Matrix: Water
Analysis Batch: 446236

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.5	0.43	mg/L			12/13/23 17:17	1

Lab Sample ID: LCS 580-446236/4
Matrix: Water
Analysis Batch: 446236

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	52.0		mg/L		104	90 - 110

Lab Sample ID: LCSD 580-446236/5
Matrix: Water
Analysis Batch: 446236

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
Chloride	50.0	52.0		mg/L		104	90 - 110	0	15

Lab Sample ID: 580-134815-10 MS
Matrix: Water
Analysis Batch: 446236

Client Sample ID: MWA-31i(d)-121123
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	14000		50000	65400		mg/L		103	90 - 110

Lab Sample ID: 580-134815-10 MSD
Matrix: Water
Analysis Batch: 446236

Client Sample ID: MWA-31i(d)-121123
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	14000		50000	65600		mg/L		103	90 - 110	0	15

Lab Chronicle

Client: ERM-West
Job ID: 580-134815-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: TB-121023
Lab Sample ID: 580-134815-1
Date Collected: 12/10/23 00:01
Matrix: Water
Date Received: 12/12/23 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	446555	JBT	EET SEA	12/18/23 21:18
Total/NA	Analysis	8260D		1	446157	K1K	EET SEA	12/13/23 16:52

Client Sample ID: MWA-82-121023
Lab Sample ID: 580-134815-2
Date Collected: 12/10/23 08:32
Matrix: Water
Date Received: 12/12/23 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	446555	JBT	EET SEA	12/18/23 21:42
Total/NA	Analysis	8260D		1	446157	K1K	EET SEA	12/13/23 17:12
Total/NA	Analysis	314.0		5	727898	Y1S	EET SAC	12/15/23 13:46
Total/NA	Analysis	300.0		1	446236	CA	EET SEA	12/13/23 17:52

Client Sample ID: MWA-81i-121023
Lab Sample ID: 580-134815-3
Date Collected: 12/10/23 09:17
Matrix: Water
Date Received: 12/12/23 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	446555	JBT	EET SEA	12/18/23 22:06
Total/NA	Analysis	8260D		1	446157	K1K	EET SEA	12/13/23 17:33
Total/NA	Analysis	314.0		1	727898	Y1S	EET SAC	12/15/23 14:04
Total/NA	Analysis	300.0		1	446236	CA	EET SEA	12/13/23 18:04

Client Sample ID: MWA-41-121023
Lab Sample ID: 580-134815-4
Date Collected: 12/10/23 09:47
Matrix: Water
Date Received: 12/12/23 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	446555	JBT	EET SEA	12/18/23 22:30
Total/NA	Analysis	8260D		1	446157	K1K	EET SEA	12/13/23 17:53
Total/NA	Analysis	314.0		1	727898	Y1S	EET SAC	12/15/23 14:22
Total/NA	Analysis	300.0		1	446236	CA	EET SEA	12/13/23 18:16

Client Sample ID: PA-44i-121023
Lab Sample ID: 580-134815-5
Date Collected: 12/10/23 10:29
Matrix: Water
Date Received: 12/12/23 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	446555	JBT	EET SEA	12/18/23 22:55
Total/NA	Analysis	8260D		1	446157	K1K	EET SEA	12/13/23 18:13
Total/NA	Analysis	314.0		2	727898	Y1S	EET SAC	12/15/23 14:40
Total/NA	Analysis	300.0		1	446236	CA	EET SEA	12/13/23 18:27

Client Sample ID: PA-08-121123
Lab Sample ID: 580-134815-6
Date Collected: 12/11/23 06:53
Matrix: Water
Date Received: 12/12/23 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	446555	JBT	EET SEA	12/18/23 23:19
Total/NA	Analysis	8260D		1	446157	K1K	EET SEA	12/13/23 18:33
Total/NA	Analysis	314.0		2	727898	Y1S	EET SAC	12/15/23 14:58
Total/NA	Analysis	300.0		1	446236	CA	EET SEA	12/13/23 18:39

Client Sample ID: PA-15i-121123
Lab Sample ID: 580-134815-7
Date Collected: 12/11/23 07:43
Matrix: Water
Date Received: 12/12/23 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	446555	JBT	EET SEA	12/18/23 23:43
Total/NA	Analysis	8260D		1	446157	K1K	EET SEA	12/13/23 18:53
Total/NA	Analysis	314.0		5	727898	Y1S	EET SAC	12/15/23 15:16
Total/NA	Analysis	300.0		1	446236	CA	EET SEA	12/13/23 18:51

Client Sample ID: PA-25d-121123
Lab Sample ID: 580-134815-8
Date Collected: 12/11/23 09:53
Matrix: Water
Date Received: 12/12/23 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	446555	JBT	EET SEA	12/19/23 00:07
Total/NA	Analysis	8260D		1	446157	K1K	EET SEA	12/13/23 19:14
Total/NA	Analysis	314.0		1	727898	Y1S	EET SAC	12/15/23 15:34
Total/NA	Analysis	300.0		1	446236	CA	EET SEA	12/13/23 19:02

Client Sample ID: PA-24d-121123
Lab Sample ID: 580-134815-9
Date Collected: 12/11/23 10:17
Matrix: Water
Date Received: 12/12/23 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	446252	TL1	EET SEA	12/14/23 18:23
Total/NA	Analysis	314.0		100	727898	Y1S	EET SAC	12/15/23 15:52
Total/NA	Analysis	300.0		1000	446236	CA	EET SEA	12/13/23 19:49

Client Sample ID: MWA-31i(d)-121123
Lab Sample ID: 580-134815-10
Date Collected: 12/11/23 11:20
Matrix: Water
Date Received: 12/12/23 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	446555	JBT	EET SEA	12/19/23 01:19
Total/NA	Analysis	314.0		2000	728701	Y1S	EET SAC	12/18/23 18:56
Total/NA	Analysis	300.0		1000	446236	CA	EET SEA	12/13/23 20:13

Client Sample ID: PA-23d-121123
Lab Sample ID: 580-134815-11
Date Collected: 12/11/23 12:45
Matrix: Water
Date Received: 12/12/23 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	446252	TL1	EET SEA	12/14/23 19:11
Total/NA	Analysis	314.0		150	727898	Y1S	EET SAC	12/15/23 19:08
Total/NA	Analysis	300.0		1000	446236	CA	EET SEA	12/13/23 20:59

Client Sample ID: PA-09-121123
Lab Sample ID: 580-134815-12
Date Collected: 12/11/23 09:05
Matrix: Water
Date Received: 12/12/23 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	446555	JBT	EET SEA	12/19/23 00:31
Total/NA	Analysis	8260D		1	446157	K1K	EET SEA	12/13/23 19:34
Total/NA	Analysis	314.0		1	727898	Y1S	EET SAC	12/15/23 18:50
Total/NA	Analysis	300.0		1	446236	CA	EET SEA	12/13/23 21:11

Client Sample ID: PA-16i-121123
Lab Sample ID: 580-134815-13
Date Collected: 12/11/23 07:32
Matrix: Water
Date Received: 12/12/23 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	446555	JBT	EET SEA	12/19/23 00:55
Total/NA	Analysis	8260D		1	446157	K1K	EET SEA	12/13/23 19:54
Total/NA	Analysis	314.0		2	727898	Y1S	EET SAC	12/15/23 18:32
Total/NA	Analysis	300.0		1	446236	CA	EET SEA	12/13/23 21:23

Client Sample ID: PA-03-121123
Lab Sample ID: 580-134815-14
Date Collected: 12/11/23 12:25
Matrix: Water
Date Received: 12/12/23 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	446157	K1K	EET SEA	12/13/23 20:14
Total/NA	Analysis	8260D	RA	1	446849	K1K	EET SEA	12/21/23 15:29
Total/NA	Analysis	314.0		2	727898	Y1S	EET SAC	12/15/23 17:39
Total/NA	Analysis	300.0		1	446236	CA	EET SEA	12/13/23 21:58

Client Sample ID: PA-26d-121123
Lab Sample ID: 580-134815-15
Date Collected: 12/11/23 10:51
Matrix: Water
Date Received: 12/12/23 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	446157	K1K	EET SEA	12/13/23 20:34
Total/NA	Analysis	8260D	RA	1	446849	K1K	EET SEA	12/21/23 15:49
Total/NA	Analysis	314.0		1	727898	Y1S	EET SAC	12/15/23 18:15
Total/NA	Analysis	300.0		1	446236	CA	EET SEA	12/13/23 22:10

Lab Chronicle

Client: ERM-West
Job ID: 580-134815-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-17iR-121123
Lab Sample ID: 580-134815-16

Date Collected: 12/11/23 13:48
Matrix: Water
Date Received: 12/12/23 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	446157	K1K	EET SEA	12/13/23 20:55
Total/NA	Analysis	8260D	RA	1	446849	K1K	EET SEA	12/21/23 16:10
Total/NA	Analysis	314.0		2	727898	Y1S	EET SAC	12/15/23 17:57
Total/NA	Analysis	300.0		1	446236	CA	EET SEA	12/13/23 22:21

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

EET SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: ERM-West
Job ID: 580-134815-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Laboratory: Eurofins Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4167	07-07-24

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4040	01-29-24

Sample Summary

Client: ERM-West
Job ID: 580-134815-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-134815-1	TB-121023	Water	12/10/23 00:01	12/12/23 11:30
580-134815-2	MWA-82-121023	Water	12/10/23 08:32	12/12/23 11:30
580-134815-3	MWA-81i-121023	Water	12/10/23 09:17	12/12/23 11:30
580-134815-4	MWA-41-121023	Water	12/10/23 09:47	12/12/23 11:30
580-134815-5	PA-44i-121023	Water	12/10/23 10:29	12/12/23 11:30
580-134815-6	PA-08-121123	Water	12/11/23 06:53	12/12/23 11:30
580-134815-7	PA-15i-121123	Water	12/11/23 07:43	12/12/23 11:30
580-134815-8	PA-25d-121123	Water	12/11/23 09:53	12/12/23 11:30
580-134815-9	PA-24d-121123	Water	12/11/23 10:17	12/12/23 11:30
580-134815-10	MWA-31i(d)-121123	Water	12/11/23 11:20	12/12/23 11:30
580-134815-11	PA-23d-121123	Water	12/11/23 12:45	12/12/23 11:30
580-134815-12	PA-09-121123	Water	12/11/23 09:05	12/12/23 11:30
580-134815-13	PA-16i-121123	Water	12/11/23 07:32	12/12/23 11:30
580-134815-14	PA-03-121123	Water	12/11/23 12:25	12/12/23 11:30
580-134815-15	PA-26d-121123	Water	12/11/23 10:51	12/12/23 11:30
580-134815-16	PA-17iR-121123	Water	12/11/23 13:48	12/12/23 11:30

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

580-134815 Chain of Custody

eurofins Environment Testing TestAmerica

Client Information	Sampler: ST / PV	Lab PM: Cruz, Sheri L	COC No:
Client Contact: Avery Soplata and Andrew Gardner	Phone:	E-Mail: sheri.cruz@testamericainc.com	Page: 1 of 2
Company: ERM-West			Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:		
City: Portland	TAT Requested (days): 15BD		
State, Zip: OR, 97204			
Phone:	PO #: PN 0682894.207		
Email: avery.soplata@erm.com andrew.gardner@erm.com	WO #:		
Project Name: Arkema - Q4 2023 Groundwater event	Project #: 0682894		
Site:	SSOW#:		

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Solid, Oil/waste, BT=Tissue, Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	MS/MSD	Total Number of containers	Special Instructions/Note:
Preservation Code:					X	X	A	A	N	N		X	
TB-121023	12/10/23		G	Water				X				2	
MWA-32-121023		0832		Water				X	X	X		5	
MWA-81i-121023		0917		Water				X	X	X		5	
MWA-41-121023		0947		Water				X	X	X		5	
PA-44i-121023		1029		Water				X	X	X		5	
PA-08-121123	12/11/23	0653	G	Water				X	X	X		5	
PA-15i-121123		0743		Water				X	X	X		5	
PA-025d-121123		0953		Water				X	X	X		5	
PA-24d-121123		1017		Water			X		X	X		5	
MWA-31i(d)-121123		1120					X		X	X	X	15	
PA-23d-121123		1245					X		X	X		5	

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

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

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

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/12/23 1100	ERM		12/12/23 1100	M.E.
2		12/12/23 1130	M.E.		12/12/23 1130	ERM
3						

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 2.1

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: ST/PV	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Andrew Gardner	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 2 of 2
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: PN 0682894.207			
Email: avery.soplata@erm.com andrew.gardner@erm.com	WO #:			
Project Name: Arkema - Q4 2023 Groundwater event	Project #: 0682894			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	N	N		
PA-09-121123	12/11/23	0905	G	Water				X	X	X	5	
PA-16i-121123		0732		Water				X	X	X	5	
PA-03-121123		1225		Water				X	X	X	5	
PA-26d-121123		1051		Water				X	X	X	5	
PA-17iR-121123		1348		Water				X	X	X	5	
				Water								
				Water								
				Water								
				Water								

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

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

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

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	12/12/23 1100	ERM	[signature]	12/12/23 1100	M.E.
2	[signature]	12/12/23 1130	M.E.	[signature]	12/12/23 1130	ERM
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Eurofins Seattle
5755 8th Street East
Tacoma, WA 98424
Phone: 253-922-2310

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No: 580-128255.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Sheri.Cruz@et.eurofinsus.com	State of Origin: Oregon	Page: Page 1 of 2
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): NELAP - Oregon		Job #: 580-134815-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/4/2024			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Arkema - Q4 2023 Groundwater Event	Project #: 58016290			
Site:	SSOW#:			

Analysis Requested

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

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MWA-82-121023 (580-134815-2)	12/10/23	08:32 Pacific		Water			X	1	
MWA-81i-121023 (580-134815-3)	12/10/23	09:17 Pacific		Water			X	1	
MWA-41-121023 (580-134815-4)	12/10/23	09:47 Pacific		Water			X	1	
PA-44i-121023 (580-134815-5)	12/10/23	10:29 Pacific		Water			X	1	
PA-08-121123 (580-134815-6)	12/11/23	06:53 Pacific		Water			X	1	
PA-15i-121123 (580-134815-7)	12/11/23	07:43 Pacific		Water			X	1	
PA-25d-121123 (580-134815-8)	12/11/23	09:53 Pacific		Water			X	1	
PA-24d-121123 (580-134815-9)	12/11/23	10:17 Pacific		Water			X	1	
MWA-31i(d)-121123 (580-134815-10)	12/11/23	11:20 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northwest, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/12/23 1520			12-13-23 915	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.: 2082776	Cooler Temperature(s) °C and Other Remarks: 2.0c

Eurofins Seattle
5755 8th Street East
Tacoma, WA 98424
Phone: 253-922-2310

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No: 580-128255.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Sheri.Cruz@et.eurofinsus.com	State of Origin: Oregon	Page: Page 2 of 2
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): NELAP - Oregon		Job #: 580-134815-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/4/2024			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Arkema - Q4 2023 Groundwater Event	Project #: 58016290			
Site:	SSOW#:			

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

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MWA-31i(d)-121123 (580-134815-10MS)	12/11/23	11:20 Pacific	MS	Water			X	1	
MWA-31i(d)-121123 (580-134815-10MSD)	12/11/23	11:20 Pacific	MSD	Water			X	1	
PA-23d-121123 (580-134815-11)	12/11/23	12:45 Pacific		Water			X	1	
PA-09-121123 (580-134815-12)	12/11/23	09:05 Pacific		Water			X	1	
PA-16i-121123 (580-134815-13)	12/11/23	07:32 Pacific		Water			X	1	
PA-03-121123 (580-134815-14)	12/11/23	12:25 Pacific		Water			X	1	
PA-26d-121123 (580-134815-15)	12/11/23	10:51 Pacific		Water			X	1	
PA-17iR-121123 (580-134815-16)	12/11/23	13:48 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northwest, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 12/12/23 1326	Company	Received by:	Date/Time: 12-13-23 915	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: 2080478	Cooler Temperature(s) °C and Other Remarks: 20c

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-134815-1

Login Number: 134815
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-134815-1

Login Number: 134815
List Number: 2
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 12/13/23 01:56 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	2082778
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Job:____ 580-134815 Field Sheet

Tracking # : 6057884998324

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: IR09 Corr. Factor: (+ / -) - °C

Ice 1 Wet 1 Gel _____ Other _____

Cooler Custody Seal: 2082778

Cooler ID: _____

Temp Observed: 2.0 °C Corrected: 2.0 °C

From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: _____ Date: 10.13.23

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☑	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☑	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: _____ Date: 10.13.23

Notes:_____

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☑

Initials: _____ Date: 10.13.23

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Avery Soplata
ERM-West
1050 SW 6th Avenue
Suite 1650
Portland, Oregon 97204

Generated 1/17/2024 3:41:37 PM Revision 2

JOB DESCRIPTION

Arkema - Q4 2023 Groundwater Event

JOB NUMBER

580-134914-1

Eurofins Seattle
5755 8th Street East
Tacoma WA 98424

See page two for job notes and contact information.

Job Notes

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

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northwest, LLC Project Manager.

Authorization

Tracy Dutton

Generated
1/17/2024 3:41:37 PM
Revision 2

Authorized for release by
Tracy Dutton, Client Relations Manager
Tracy.Dutton@et.eurofinsus.com
Designee for
Marie Walker, Senior Project Manager
M.Elaine.Walker@et.eurofinsus.com
(253)248-4972

Table of Contents

Job ID: 580-134914-1 Eurofins Seattle

Job Narrative
580-134914-1

Revised 1/5/2024 to remove rounding QC comment for AB 580-134914.
Revised report 1/17/2024 for method 8260D for duplicate analytes reporting in QC.
74-97-5 chlorobromomethane
128-48-1 Dibromochloromethane
75-27-4 Dichlorobromomethane
106-93-4 Ethylene Dibromide
98-06-6 tert-Butylbenzene

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.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 12/14/2023 11:13 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 1.2°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 580-446612 recovered above the upper control limit for Dichlorodifluoromethane, 2-Butanone (MEK), 4-Methyl-2-pentanone (MIBK) and 1,2-Dibromo-3-Chloropropane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MWA-56d-121223 (580-134914-2), Dup-01-121223 (580-134914-3), MWA-58d-121223 (580-134914-4), RB-01-121223 (580-134914-5), PA-21d-121223 (580-134914-9) and (CCVIS 580-446612/3).

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MWA-56d-121223 (580-134914-2), MWA-58d-121223 (580-134914-4) and PA-21d-121223 (580-134914-9). Elevated reporting limits (RLs) are provided.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: PA-19d-121323 (580-134914-15). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-446667 recovered above the upper control limit for Dichlorodifluoromethane and Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: TB-121223 (580-134914-1), PA-22d-121223 (580-134914-6), MWA-63-121223 (580-134914-7), PA-20d-121223 (580-134914-8), PA-27d-121223 (580-134914-10), PA-18d-121223 (580-134914-13), PA-19d-121323 (580-134914-15), RB-02-121323 (580-134914-17) and (CCVIS 580-446667/3).

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: Dup-01-121223 (580-134914-3), MWA-63-121223 (580-134914-7), PA-19d-121323 (580-134914-15) and PA-30d-121323 (580-134914-16). Elevated reporting limits (RLs) are provided.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: PA-30d-121323 (580-134914-16). Elevated reporting limits (RLs) are provided.

Method 8260D_LL: The continuing calibration verification (CCV) associated with batch 580-446667 recovered above the upper control limit for Dichlorodifluoromethane and Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: TB-121223 (580-134914-1), PA-22d-121223 (580-134914-6), MWA-63-121223 (580-134914-7), PA-20d-121223 (580-134914-8), PA-27d-121223 (580-134914-10), PA-18d-121223 (580-134914-13), PA-19d-121323 (580-134914-15), RB-02-121323 (580-134914-17) and

(CCVIS 580-446667/3).

Method 8260D_LL: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 580-446722 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 8260D_LL: The continuing calibration verification (CCV) associated with batch 580-446849 recovered above the upper control limit for Dichlorodifluoromethane, Carbon disulfide, 2,2-Dichloropropane, 2-Butanone (MEK) and Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: PA-10i-121223 (580-134914-12), DUP-02-121323 (580-134914-19), MWA-11i(d)-121323 (580-134914-20) and (CCVIS 580-446849/3).

Method 8260D_LL: The method blank for analytical batch 580-446849 contained Hexachlorobutadiene above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL) in the method blank; therefore, re-extraction and re-analysis of samples was not performed.

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

HPLC/IC
Method 314.0: Due to the high conductivity measurement for the following sample in analytical batch 320-728533 , the sample was diluted. Elevated reporting limits (RLs) are provided.

MWA-11i(d)-121323 (580-134914-20)

Method 314.0: The following samples in analytical batch 320-728701 were diluted, based on historical data, to bring the concentration of target analytes within the calibration range: MWA-56d-121223 (580-134914-2), Dup-01-121223 (580-134914-3), MWA-58d-121223 (580-134914-4), PA-22d-121223 (580-134914-6), (580-134815-B-10), (580-134815-B-10 MS) and (580-134815-B-10 MSD). Elevated reporting limits (RLs) are provided.

Method 314.0: Due to the nature of the matrix and/or the high conductivity measurement for the following samples, and in order to protect instrumentation, the following samples in analytical batch 320-728701 were diluted. Elevated reporting limits (RLs) are provided.

PA-20d-121223 (580-134914-8), PA-21d-121223 (580-134914-9), PA-18d-121223 (580-134914-13), PA-19d-121323 (580-134914-15) and PA-30d-121323 (580-134914-16)

Method 314.0: Due to the nature of the sample matrix (high conductivity measurement, difficulty filtering, an/or extremely dark color), and in order to protect instrumentation, the following samples in analytical batch 320-728844 were diluted. Elevated reporting limits (RLs) are provided.
PA-27d-121223 (580-134914-10), PA-10i-121223 (580-134914-12), PA-32i-121323 (580-134914-18), DUP-02-121323 (580-134914-19), (580-134914-B-10 MS) and (580-134914-B-10 MSD)

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

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

Definitions/Glossary

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: TB-121223
Lab Sample ID: 580-134914-1
Date Collected: 12/12/23 00:01
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/20/23 00:25	1
Chloromethane	ND		0.50	0.14	ug/L			12/20/23 00:25	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/20/23 00:25	1
Bromomethane	ND		0.50	0.13	ug/L			12/20/23 00:25	1
Chloroethane	ND		0.50	0.096	ug/L			12/20/23 00:25	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/20/23 00:25	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/20/23 00:25	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/20/23 00:25	1
Acetone	ND		10	3.1	ug/L			12/20/23 00:25	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/20/23 00:25	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/20/23 00:25	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/20/23 00:25	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/20/23 00:25	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			12/20/23 00:25	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/20/23 00:25	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/20/23 00:25	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/20/23 00:25	1
Chloroform	ND		0.20	0.030	ug/L			12/20/23 00:25	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/20/23 00:25	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/20/23 00:25	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/20/23 00:25	1
Benzene	ND		0.20	0.030	ug/L			12/20/23 00:25	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/20/23 00:25	1
Trichloroethene	ND		0.20	0.066	ug/L			12/20/23 00:25	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/20/23 00:25	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/20/23 00:25	1
Dibromomethane	ND		0.20	0.062	ug/L			12/20/23 00:25	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/20/23 00:25	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/20/23 00:25	1
Toluene	ND		0.20	0.050	ug/L			12/20/23 00:25	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/20/23 00:25	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/20/23 00:25	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/20/23 00:25	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/20/23 00:25	1
Dibromochloromethane	ND		0.20	0.055	ug/L			12/20/23 00:25	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/20/23 00:25	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/20/23 00:25	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/20/23 00:25	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/20/23 00:25	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/20/23 00:25	1
o-Xylene	ND		0.50	0.15	ug/L			12/20/23 00:25	1
Styrene	ND		1.0	0.19	ug/L			12/20/23 00:25	1
Bromoform	ND		0.50	0.16	ug/L			12/20/23 00:25	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/20/23 00:25	1
Bromobenzene	ND		0.20	0.038	ug/L			12/20/23 00:25	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/20/23 00:25	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/20/23 00:25	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/20/23 00:25	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/20/23 00:25	1

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: TB-121223
Lab Sample ID: 580-134914-1
Date Collected: 12/12/23 00:01
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/20/23 00:25	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/20/23 00:25	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/20/23 00:25	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/20/23 00:25	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/20/23 00:25	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/20/23 00:25	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/20/23 00:25	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/20/23 00:25	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/20/23 00:25	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/20/23 00:25	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/20/23 00:25	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/20/23 00:25	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/20/23 00:25	1
Naphthalene	ND		1.0	0.22	ug/L			12/20/23 00:25	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/20/23 00:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/20/23 00:25*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*12/20/23 00:25*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/20/23 00:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/20/23 00:25*	*1*

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: MWA-56d-121223
Lab Sample ID: 580-134914-2
Date Collected: 12/12/23 07:16
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	5.3	ug/L			12/19/23 20:42	10
Chloromethane	ND		10	2.8	ug/L			12/19/23 20:42	10
Vinyl chloride	ND		10	2.2	ug/L			12/19/23 20:42	10
Bromomethane	ND		10	2.1	ug/L			12/19/23 20:42	10
Chloroethane	ND		10	3.5	ug/L			12/19/23 20:42	10
Trichlorofluoromethane	ND		10	3.6	ug/L			12/19/23 20:42	10
Carbon disulfide	ND		10	5.3	ug/L			12/19/23 20:42	10
1,1-Dichloroethene	ND		10	2.8	ug/L			12/19/23 20:42	10
Acetone	**55**	**J**	150	32	ug/L			12/19/23 20:42	10
Methylene Chloride	ND		50	14	ug/L			12/19/23 20:42	10
Methyl tert-butyl ether	ND		10	4.4	ug/L			12/19/23 20:42	10
trans-1,2-Dichloroethene	ND		10	3.9	ug/L			12/19/23 20:42	10
1,1-Dichloroethane	ND		10	2.2	ug/L			12/19/23 20:42	10
2-Butanone (MEK)	ND		150	47	ug/L			12/19/23 20:42	10
2,2-Dichloropropane	ND		10	3.2	ug/L			12/19/23 20:42	10
cis-1,2-Dichloroethene	ND		10	3.5	ug/L			12/19/23 20:42	10
Chlorobromomethane	ND		10	2.9	ug/L			12/19/23 20:42	10
Chloroform	**150**		10	2.6	ug/L			12/19/23 20:42	10
1,1,1-Trichloroethane	ND		10	3.9	ug/L			12/19/23 20:42	10
Carbon tetrachloride	ND		10	3.0	ug/L			12/19/23 20:42	10
1,1-Dichloropropene	ND		10	2.9	ug/L			12/19/23 20:42	10
Benzene	ND		10	2.4	ug/L			12/19/23 20:42	10
1,2-Dichloroethane	ND		10	4.2	ug/L			12/19/23 20:42	10
Trichloroethene	ND		10	2.6	ug/L			12/19/23 20:42	10
1,2-Dichloropropane	ND		10	1.8	ug/L			12/19/23 20:42	10
4-Methyl-2-pentanone (MIBK)	ND		50	25	ug/L			12/19/23 20:42	10
Dibromomethane	ND		10	3.4	ug/L			12/19/23 20:42	10
Dichlorobromomethane	ND		10	2.9	ug/L			12/19/23 20:42	10
cis-1,3-Dichloropropene	ND		10	4.2	ug/L			12/19/23 20:42	10
Toluene	ND		10	3.9	ug/L			12/19/23 20:42	10
trans-1,3-Dichloropropene	ND		10	4.1	ug/L			12/19/23 20:42	10
1,1,2-Trichloroethane	ND		10	2.4	ug/L			12/19/23 20:42	10
Tetrachloroethene	ND		10	4.1	ug/L			12/19/23 20:42	10
1,3-Dichloropropane	ND		10	3.5	ug/L			12/19/23 20:42	10
Dibromochloromethane	ND		10	4.3	ug/L			12/19/23 20:42	10
Ethylene Dibromide	ND		10	4.0	ug/L			12/19/23 20:42	10
Chlorobenzene	ND		10	4.4	ug/L			12/19/23 20:42	10
1,1,1,2-Tetrachloroethane	ND		10	1.8	ug/L			12/19/23 20:42	10
Ethylbenzene	ND		10	5.0	ug/L			12/19/23 20:42	10
m-Xylene & p-Xylene	ND		20	5.3	ug/L			12/19/23 20:42	10
o-Xylene	ND		10	3.9	ug/L			12/19/23 20:42	10
Styrene	ND		10	5.3	ug/L			12/19/23 20:42	10
Bromoform	ND		10	5.1	ug/L			12/19/23 20:42	10
Isopropylbenzene	ND		10	4.4	ug/L			12/19/23 20:42	10
Bromobenzene	ND		10	4.3	ug/L			12/19/23 20:42	10
1,1,2,2-Tetrachloroethane	ND		10	5.2	ug/L			12/19/23 20:42	10
1,2,3-Trichloropropane	ND		10	4.1	ug/L			12/19/23 20:42	10
N-Propylbenzene	ND		10	5.0	ug/L			12/19/23 20:42	10
2-Chlorotoluene	ND		10	5.1	ug/L			12/19/23 20:42	10

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: MWA-56d-121223
Lab Sample ID: 580-134914-2
Date Collected: 12/12/23 07:16
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		10	3.8	ug/L			12/19/23 20:42	10
tert-Butylbenzene	ND		20	5.8	ug/L			12/19/23 20:42	10
1,2,4-Trimethylbenzene	ND		30	6.1	ug/L			12/19/23 20:42	10
sec-Butylbenzene	ND		10	4.9	ug/L			12/19/23 20:42	10
4-Isopropyltoluene	ND		10	2.8	ug/L			12/19/23 20:42	10
1,3-Dichlorobenzene	ND		10	4.8	ug/L			12/19/23 20:42	10
1,4-Dichlorobenzene	ND		10	4.6	ug/L			12/19/23 20:42	10
n-Butylbenzene	ND		10	4.4	ug/L			12/19/23 20:42	10
1,2-Dichlorobenzene	ND		10	4.6	ug/L			12/19/23 20:42	10
1,2-Dibromo-3-Chloropropane	ND		30	5.7	ug/L			12/19/23 20:42	10
1,2,4-Trichlorobenzene	ND		10	3.3	ug/L			12/19/23 20:42	10
Hexachlorobutadiene	ND		30	7.9	ug/L			12/19/23 20:42	10
Naphthalene	ND		30	9.3	ug/L			12/19/23 20:42	10
1,2,3-Trichlorobenzene	ND		20	4.3	ug/L			12/19/23 20:42	10
1,3,5-Trimethylbenzene	ND		10	5.5	ug/L			12/19/23 20:42	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/19/23 20:42*	*10*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*12/19/23 20:42*	*10*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/19/23 20:42*	*10*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*12/19/23 20:42*	*10*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**14000**		4000	2000	ug/L			12/18/23 21:59	1000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**14000**		1500	430	mg/L			12/18/23 21:44	1000

Client Sample ID: Dup-01-121223
Lab Sample ID: 580-134914-3
Date Collected: 12/12/23 07:17
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/19/23 18:20	1
Chloromethane	ND		1.0	0.28	ug/L			12/19/23 18:20	1
Vinyl chloride	ND		1.0	0.22	ug/L			12/19/23 18:20	1
Bromomethane	ND		1.0	0.21	ug/L			12/19/23 18:20	1
Chloroethane	ND		1.0	0.35	ug/L			12/19/23 18:20	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/19/23 18:20	1
Carbon disulfide	ND		1.0	0.53	ug/L			12/19/23 18:20	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			12/19/23 18:20	1
Acetone	ND		15	3.2	ug/L			12/19/23 18:20	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/19/23 18:20	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/19/23 18:20	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/19/23 18:20	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			12/19/23 18:20	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/19/23 18:20	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/19/23 18:20	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			12/19/23 18:20	1
Chlorobromomethane	ND		1.0	0.29	ug/L			12/19/23 18:20	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/19/23 18:20	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/19/23 18:20	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/19/23 18:20	1
Benzene	ND		1.0	0.24	ug/L			12/19/23 18:20	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			12/19/23 18:20	1
Trichloroethene	ND		1.0	0.26	ug/L			12/19/23 18:20	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			12/19/23 18:20	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/19/23 18:20	1
Dibromomethane	ND		1.0	0.34	ug/L			12/19/23 18:20	1
Dichlorobromomethane	**0.75**	**J**	1.0	0.29	ug/L			12/19/23 18:20	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/19/23 18:20	1
Toluene	ND		1.0	0.39	ug/L			12/19/23 18:20	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/19/23 18:20	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			12/19/23 18:20	1
Tetrachloroethene	ND		1.0	0.41	ug/L			12/19/23 18:20	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/19/23 18:20	1
Dibromochloromethane	ND		1.0	0.43	ug/L			12/19/23 18:20	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			12/19/23 18:20	1
Chlorobenzene	ND		1.0	0.44	ug/L			12/19/23 18:20	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			12/19/23 18:20	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/19/23 18:20	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/19/23 18:20	1
o-Xylene	ND		1.0	0.39	ug/L			12/19/23 18:20	1
Styrene	ND		1.0	0.53	ug/L			12/19/23 18:20	1
Bromoform	ND		1.0	0.51	ug/L			12/19/23 18:20	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/19/23 18:20	1
Bromobenzene	ND		1.0	0.43	ug/L			12/19/23 18:20	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			12/19/23 18:20	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/19/23 18:20	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/19/23 18:20	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/19/23 18:20	1
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/19/23 18:20	1

Client Sample ID: Dup-01-121223
Lab Sample ID: 580-134914-3
Date Collected: 12/12/23 07:17
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		2.0	0.58	ug/L			12/19/23 18:20	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/19/23 18:20	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/19/23 18:20	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/19/23 18:20	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/19/23 18:20	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/19/23 18:20	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/19/23 18:20	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/19/23 18:20	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/19/23 18:20	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/19/23 18:20	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/19/23 18:20	1
Naphthalene	ND		3.0	0.93	ug/L			12/19/23 18:20	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/19/23 18:20	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			12/19/23 18:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/19/23 18:20*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*12/19/23 18:20*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/19/23 18:20*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*12/19/23 18:20*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	**150**		10	2.6	ug/L			12/20/23 20:10	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/20/23 20:10*	*10*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/20/23 20:10*	*10*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/20/23 20:10*	*10*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*12/20/23 20:10*	*10*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**14000**		4000	2000	ug/L			12/18/23 22:14	1000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**14000**		1500	430	mg/L			12/18/23 22:07	1000

Client Sample ID: MWA-58d-121223
Lab Sample ID: 580-134914-4

Date Collected: 12/12/23 08:03
Matrix: Water

Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		5.0	2.7	ug/L			12/19/23 20:22	5
Chloromethane	ND		5.0	1.4	ug/L			12/19/23 20:22	5
Vinyl chloride	ND		5.0	1.1	ug/L			12/19/23 20:22	5
Bromomethane	ND		5.0	1.1	ug/L			12/19/23 20:22	5
Chloroethane	ND		5.0	1.8	ug/L			12/19/23 20:22	5
Trichlorofluoromethane	ND		5.0	1.8	ug/L			12/19/23 20:22	5
Carbon disulfide	ND		5.0	2.7	ug/L			12/19/23 20:22	5
1,1-Dichloroethene	ND		5.0	1.4	ug/L			12/19/23 20:22	5
Acetone	**22**	**J**	75	16	ug/L			12/19/23 20:22	5
Methylene Chloride	ND		25	7.2	ug/L			12/19/23 20:22	5
Methyl tert-butyl ether	ND		5.0	2.2	ug/L			12/19/23 20:22	5
trans-1,2-Dichloroethene	ND		5.0	2.0	ug/L			12/19/23 20:22	5
1,1-Dichloroethane	ND		5.0	1.1	ug/L			12/19/23 20:22	5
2-Butanone (MEK)	ND		75	24	ug/L			12/19/23 20:22	5
2,2-Dichloropropane	ND		5.0	1.6	ug/L			12/19/23 20:22	5
cis-1,2-Dichloroethene	ND		5.0	1.8	ug/L			12/19/23 20:22	5
Chlorobromomethane	ND		5.0	1.5	ug/L			12/19/23 20:22	5
Chloroform	**190**		5.0	1.3	ug/L			12/19/23 20:22	5
1,1,1-Trichloroethane	ND		5.0	2.0	ug/L			12/19/23 20:22	5
Carbon tetrachloride	ND		5.0	1.5	ug/L			12/19/23 20:22	5
1,1-Dichloropropene	ND		5.0	1.5	ug/L			12/19/23 20:22	5
Benzene	ND		5.0	1.2	ug/L			12/19/23 20:22	5
1,2-Dichloroethane	ND		5.0	2.1	ug/L			12/19/23 20:22	5
Trichloroethene	ND		5.0	1.3	ug/L			12/19/23 20:22	5
1,2-Dichloropropane	ND		5.0	0.90	ug/L			12/19/23 20:22	5
4-Methyl-2-pentanone (MIBK)	ND		25	13	ug/L			12/19/23 20:22	5
Dibromomethane	ND		5.0	1.7	ug/L			12/19/23 20:22	5
Dichlorobromomethane	ND		5.0	1.5	ug/L			12/19/23 20:22	5
cis-1,3-Dichloropropene	ND		5.0	2.1	ug/L			12/19/23 20:22	5
Toluene	ND		5.0	2.0	ug/L			12/19/23 20:22	5
trans-1,3-Dichloropropene	ND		5.0	2.1	ug/L			12/19/23 20:22	5
1,1,2-Trichloroethane	ND		5.0	1.2	ug/L			12/19/23 20:22	5
Tetrachloroethene	ND		5.0	2.1	ug/L			12/19/23 20:22	5
1,3-Dichloropropane	ND		5.0	1.8	ug/L			12/19/23 20:22	5
Dibromochloromethane	ND		5.0	2.2	ug/L			12/19/23 20:22	5
Ethylene Dibromide	ND		5.0	2.0	ug/L			12/19/23 20:22	5
Chlorobenzene	ND		5.0	2.2	ug/L			12/19/23 20:22	5
1,1,1,2-Tetrachloroethane	ND		5.0	0.90	ug/L			12/19/23 20:22	5
Ethylbenzene	ND		5.0	2.5	ug/L			12/19/23 20:22	5
m-Xylene & p-Xylene	ND		10	2.7	ug/L			12/19/23 20:22	5
o-Xylene	ND		5.0	2.0	ug/L			12/19/23 20:22	5
Styrene	ND		5.0	2.7	ug/L			12/19/23 20:22	5
Bromoform	ND		5.0	2.6	ug/L			12/19/23 20:22	5
Isopropylbenzene	ND		5.0	2.2	ug/L			12/19/23 20:22	5
Bromobenzene	ND		5.0	2.2	ug/L			12/19/23 20:22	5
1,1,2,2-Tetrachloroethane	ND		5.0	2.6	ug/L			12/19/23 20:22	5
1,2,3-Trichloropropane	ND		5.0	2.1	ug/L			12/19/23 20:22	5
N-Propylbenzene	ND		5.0	2.5	ug/L			12/19/23 20:22	5
2-Chlorotoluene	ND		5.0	2.6	ug/L			12/19/23 20:22	5

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: MWA-58d-121223
Lab Sample ID: 580-134914-4
Date Collected: 12/12/23 08:03
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		5.0	1.9	ug/L			12/19/23 20:22	5
tert-Butylbenzene	ND		10	2.9	ug/L			12/19/23 20:22	5
1,2,4-Trimethylbenzene	ND		15	3.1	ug/L			12/19/23 20:22	5
sec-Butylbenzene	ND		5.0	2.5	ug/L			12/19/23 20:22	5
4-Isopropyltoluene	ND		5.0	1.4	ug/L			12/19/23 20:22	5
1,3-Dichlorobenzene	ND		5.0	2.4	ug/L			12/19/23 20:22	5
1,4-Dichlorobenzene	ND		5.0	2.3	ug/L			12/19/23 20:22	5
n-Butylbenzene	ND		5.0	2.2	ug/L			12/19/23 20:22	5
1,2-Dichlorobenzene	ND		5.0	2.3	ug/L			12/19/23 20:22	5
1,2-Dibromo-3-Chloropropane	ND		15	2.9	ug/L			12/19/23 20:22	5
1,2,4-Trichlorobenzene	ND		5.0	1.7	ug/L			12/19/23 20:22	5
Hexachlorobutadiene	ND		15	4.0	ug/L			12/19/23 20:22	5
Naphthalene	ND		15	4.7	ug/L			12/19/23 20:22	5
1,2,3-Trichlorobenzene	ND		10	2.2	ug/L			12/19/23 20:22	5
1,3,5-Trimethylbenzene	ND		5.0	2.8	ug/L			12/19/23 20:22	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/19/23 20:22*	*5*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/19/23 20:22*	*5*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/19/23 20:22*	*5*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*12/19/23 20:22*	*5*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**50000**		4000	2000	ug/L			12/18/23 22:29	1000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**19000**		1500	430	mg/L			12/18/23 22:30	1000

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: RB-01-121223
Lab Sample ID: 580-134914-5
Date Collected: 12/12/23 08:20
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/19/23 18:40	1
Chloromethane	ND		1.0	0.28	ug/L			12/19/23 18:40	1
Vinyl chloride	ND		1.0	0.22	ug/L			12/19/23 18:40	1
Bromomethane	ND		1.0	0.21	ug/L			12/19/23 18:40	1
Chloroethane	ND		1.0	0.35	ug/L			12/19/23 18:40	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/19/23 18:40	1
Carbon disulfide	ND		1.0	0.53	ug/L			12/19/23 18:40	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			12/19/23 18:40	1
Acetone	ND		15	3.2	ug/L			12/19/23 18:40	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/19/23 18:40	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/19/23 18:40	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/19/23 18:40	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			12/19/23 18:40	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/19/23 18:40	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/19/23 18:40	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			12/19/23 18:40	1
Chlorobromomethane	ND		1.0	0.29	ug/L			12/19/23 18:40	1
Chloroform	ND		1.0	0.26	ug/L			12/19/23 18:40	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/19/23 18:40	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/19/23 18:40	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/19/23 18:40	1
Benzene	ND		1.0	0.24	ug/L			12/19/23 18:40	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			12/19/23 18:40	1
Trichloroethene	ND		1.0	0.26	ug/L			12/19/23 18:40	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			12/19/23 18:40	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/19/23 18:40	1
Dibromomethane	ND		1.0	0.34	ug/L			12/19/23 18:40	1
Dichlorobromomethane	ND		1.0	0.29	ug/L			12/19/23 18:40	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/19/23 18:40	1
Toluene	ND		1.0	0.39	ug/L			12/19/23 18:40	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/19/23 18:40	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			12/19/23 18:40	1
Tetrachloroethene	ND		1.0	0.41	ug/L			12/19/23 18:40	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/19/23 18:40	1
Dibromochloromethane	ND		1.0	0.43	ug/L			12/19/23 18:40	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			12/19/23 18:40	1
Chlorobenzene	ND		1.0	0.44	ug/L			12/19/23 18:40	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			12/19/23 18:40	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/19/23 18:40	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/19/23 18:40	1
o-Xylene	ND		1.0	0.39	ug/L			12/19/23 18:40	1
Styrene	ND		1.0	0.53	ug/L			12/19/23 18:40	1
Bromoform	ND		1.0	0.51	ug/L			12/19/23 18:40	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/19/23 18:40	1
Bromobenzene	ND		1.0	0.43	ug/L			12/19/23 18:40	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			12/19/23 18:40	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/19/23 18:40	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/19/23 18:40	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/19/23 18:40	1

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: RB-01-121223
Lab Sample ID: 580-134914-5
Date Collected: 12/12/23 08:20
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/19/23 18:40	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			12/19/23 18:40	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/19/23 18:40	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/19/23 18:40	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/19/23 18:40	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/19/23 18:40	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/19/23 18:40	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/19/23 18:40	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/19/23 18:40	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/19/23 18:40	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/19/23 18:40	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/19/23 18:40	1
Naphthalene	ND		3.0	0.93	ug/L			12/19/23 18:40	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/19/23 18:40	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			12/19/23 18:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/19/23 18:40*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*12/19/23 18:40*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/19/23 18:40*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*12/19/23 18:40*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			12/18/23 21:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	ND		1.5	0.43	mg/L			12/18/23 22:42	1

Client Sample ID: PA-22d-121223
Lab Sample ID: 580-134914-6
Date Collected: 12/12/23 09:06
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/20/23 02:06	1
Chloromethane	ND		1.0	0.28	ug/L			12/20/23 02:06	1
Vinyl chloride	ND		1.0	0.22	ug/L			12/20/23 02:06	1
Bromomethane	ND		1.0	0.21	ug/L			12/20/23 02:06	1
Chloroethane	ND		1.0	0.35	ug/L			12/20/23 02:06	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/20/23 02:06	1
Carbon disulfide	ND		1.0	0.53	ug/L			12/20/23 02:06	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			12/20/23 02:06	1
Acetone	ND		15	3.2	ug/L			12/20/23 02:06	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/20/23 02:06	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/20/23 02:06	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/20/23 02:06	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			12/20/23 02:06	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/20/23 02:06	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/20/23 02:06	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			12/20/23 02:06	1
Chlorobromomethane	ND		1.0	0.29	ug/L			12/20/23 02:06	1
Chloroform	**13**		1.0	0.26	ug/L			12/20/23 02:06	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/20/23 02:06	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/20/23 02:06	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/20/23 02:06	1
Benzene	ND		1.0	0.24	ug/L			12/20/23 02:06	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			12/20/23 02:06	1
Trichloroethene	ND		1.0	0.26	ug/L			12/20/23 02:06	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			12/20/23 02:06	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/20/23 02:06	1
Dibromomethane	ND		1.0	0.34	ug/L			12/20/23 02:06	1
Dichlorobromomethane	ND		1.0	0.29	ug/L			12/20/23 02:06	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/20/23 02:06	1
Toluene	ND		1.0	0.39	ug/L			12/20/23 02:06	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/20/23 02:06	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			12/20/23 02:06	1
Tetrachloroethene	ND		1.0	0.41	ug/L			12/20/23 02:06	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/20/23 02:06	1
Dibromochloromethane	ND		1.0	0.43	ug/L			12/20/23 02:06	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			12/20/23 02:06	1
Chlorobenzene	ND		1.0	0.44	ug/L			12/20/23 02:06	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			12/20/23 02:06	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/20/23 02:06	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/20/23 02:06	1
o-Xylene	ND		1.0	0.39	ug/L			12/20/23 02:06	1
Styrene	ND		1.0	0.53	ug/L			12/20/23 02:06	1
Bromoform	ND		1.0	0.51	ug/L			12/20/23 02:06	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/20/23 02:06	1
Bromobenzene	ND		1.0	0.43	ug/L			12/20/23 02:06	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			12/20/23 02:06	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/20/23 02:06	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/20/23 02:06	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/20/23 02:06	1

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-22d-121223
Lab Sample ID: 580-134914-6
Date Collected: 12/12/23 09:06
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/20/23 02:06	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			12/20/23 02:06	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/20/23 02:06	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/20/23 02:06	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/20/23 02:06	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/20/23 02:06	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/20/23 02:06	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/20/23 02:06	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/20/23 02:06	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/20/23 02:06	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/20/23 02:06	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/20/23 02:06	1
Naphthalene	ND		3.0	0.93	ug/L			12/20/23 02:06	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/20/23 02:06	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			12/20/23 02:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/20/23 02:06*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*12/20/23 02:06*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/20/23 02:06*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*12/20/23 02:06*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**13000**		4000	2000	ug/L			12/18/23 22:44	1000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**5300**		150	43	mg/L			12/18/23 23:17	100

Client Sample ID: MWA-63-121223
Lab Sample ID: 580-134914-7

Date Collected: 12/12/23 10:30
Matrix: Water

Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/20/23 02:26	1
Chloromethane	ND		1.0	0.28	ug/L			12/20/23 02:26	1
Vinyl chloride	ND		1.0	0.22	ug/L			12/20/23 02:26	1
Bromomethane	ND		1.0	0.21	ug/L			12/20/23 02:26	1
Chloroethane	ND		1.0	0.35	ug/L			12/20/23 02:26	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/20/23 02:26	1
Carbon disulfide	ND		1.0	0.53	ug/L			12/20/23 02:26	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			12/20/23 02:26	1
Acetone	ND		15	3.2	ug/L			12/20/23 02:26	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/20/23 02:26	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/20/23 02:26	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/20/23 02:26	1
1,1-Dichloroethane	**0.40**	**J**	1.0	0.22	ug/L			12/20/23 02:26	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/20/23 02:26	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/20/23 02:26	1
cis-1,2-Dichloroethene	**4.8**		1.0	0.35	ug/L			12/20/23 02:26	1
Chlorobromomethane	ND		1.0	0.29	ug/L			12/20/23 02:26	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/20/23 02:26	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/20/23 02:26	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/20/23 02:26	1
Benzene	ND		1.0	0.24	ug/L			12/20/23 02:26	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			12/20/23 02:26	1
Trichloroethene	**4.1**		1.0	0.26	ug/L			12/20/23 02:26	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			12/20/23 02:26	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/20/23 02:26	1
Dibromomethane	ND		1.0	0.34	ug/L			12/20/23 02:26	1
Dichlorobromomethane	**0.58**	**J**	1.0	0.29	ug/L			12/20/23 02:26	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/20/23 02:26	1
Toluene	ND		1.0	0.39	ug/L			12/20/23 02:26	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/20/23 02:26	1
1,1,2-Trichloroethane	**0.27**	**J**	1.0	0.24	ug/L			12/20/23 02:26	1
Tetrachloroethene	**24**		1.0	0.41	ug/L			12/20/23 02:26	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/20/23 02:26	1
Dibromochloromethane	ND		1.0	0.43	ug/L			12/20/23 02:26	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			12/20/23 02:26	1
Chlorobenzene	ND		1.0	0.44	ug/L			12/20/23 02:26	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			12/20/23 02:26	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/20/23 02:26	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/20/23 02:26	1
o-Xylene	ND		1.0	0.39	ug/L			12/20/23 02:26	1
Styrene	ND		1.0	0.53	ug/L			12/20/23 02:26	1
Bromoform	ND		1.0	0.51	ug/L			12/20/23 02:26	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/20/23 02:26	1
Bromobenzene	ND		1.0	0.43	ug/L			12/20/23 02:26	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			12/20/23 02:26	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/20/23 02:26	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/20/23 02:26	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/20/23 02:26	1
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/20/23 02:26	1

Client Sample ID: MWA-63-121223
Lab Sample ID: 580-134914-7

Date Collected: 12/12/23 10:30
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		2.0	0.58	ug/L			12/20/23 02:26	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/20/23 02:26	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/20/23 02:26	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/20/23 02:26	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/20/23 02:26	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/20/23 02:26	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/20/23 02:26	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/20/23 02:26	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/20/23 02:26	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/20/23 02:26	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/20/23 02:26	1
Naphthalene	ND		3.0	0.93	ug/L			12/20/23 02:26	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/20/23 02:26	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			12/20/23 02:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/20/23 02:26*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*12/20/23 02:26*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/20/23 02:26*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*12/20/23 02:26*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	**1100**		100	26	ug/L			12/20/23 20:51	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/20/23 20:51*	*100*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/20/23 20:51*	*100*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/20/23 20:51*	*100*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/20/23 20:51*	*100*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			12/18/23 21:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**15**		1.5	0.43	mg/L			12/18/23 23:40	1

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-20d-121223
Lab Sample ID: 580-134914-8
Date Collected: 12/12/23 11:19
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/20/23 02:46	1
Chloromethane	ND		1.0	0.28	ug/L			12/20/23 02:46	1
Vinyl chloride	ND		1.0	0.22	ug/L			12/20/23 02:46	1
Bromomethane	ND		1.0	0.21	ug/L			12/20/23 02:46	1
Chloroethane	ND		1.0	0.35	ug/L			12/20/23 02:46	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/20/23 02:46	1
Carbon disulfide	ND		1.0	0.53	ug/L			12/20/23 02:46	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			12/20/23 02:46	1
Acetone	ND		15	3.2	ug/L			12/20/23 02:46	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/20/23 02:46	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/20/23 02:46	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/20/23 02:46	1
1,1-Dichloroethane	**2.8**		1.0	0.22	ug/L			12/20/23 02:46	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/20/23 02:46	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/20/23 02:46	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			12/20/23 02:46	1
Chlorobromomethane	ND		1.0	0.29	ug/L			12/20/23 02:46	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/20/23 02:46	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/20/23 02:46	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/20/23 02:46	1
Benzene	**2.6**		1.0	0.24	ug/L			12/20/23 02:46	1
1,2-Dichloroethane	**0.63**	**J**	1.0	0.42	ug/L			12/20/23 02:46	1
Trichloroethene	ND		1.0	0.26	ug/L			12/20/23 02:46	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			12/20/23 02:46	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/20/23 02:46	1
Dibromomethane	ND		1.0	0.34	ug/L			12/20/23 02:46	1
Dichlorobromomethane	ND		1.0	0.29	ug/L			12/20/23 02:46	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/20/23 02:46	1
Toluene	ND		1.0	0.39	ug/L			12/20/23 02:46	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/20/23 02:46	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			12/20/23 02:46	1
Tetrachloroethene	ND		1.0	0.41	ug/L			12/20/23 02:46	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/20/23 02:46	1
Dibromochloromethane	ND		1.0	0.43	ug/L			12/20/23 02:46	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			12/20/23 02:46	1
Chlorobenzene	**18**		1.0	0.44	ug/L			12/20/23 02:46	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			12/20/23 02:46	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/20/23 02:46	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/20/23 02:46	1
o-Xylene	ND		1.0	0.39	ug/L			12/20/23 02:46	1
Styrene	ND		1.0	0.53	ug/L			12/20/23 02:46	1
Bromoform	ND		1.0	0.51	ug/L			12/20/23 02:46	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/20/23 02:46	1
Bromobenzene	ND		1.0	0.43	ug/L			12/20/23 02:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			12/20/23 02:46	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/20/23 02:46	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/20/23 02:46	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/20/23 02:46	1
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/20/23 02:46	1

Client Sample ID: PA-20d-121223
Lab Sample ID: 580-134914-8

Date Collected: 12/12/23 11:19
Matrix: Water

Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		2.0	0.58	ug/L			12/20/23 02:46	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/20/23 02:46	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/20/23 02:46	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/20/23 02:46	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/20/23 02:46	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/20/23 02:46	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/20/23 02:46	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/20/23 02:46	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/20/23 02:46	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/20/23 02:46	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/20/23 02:46	1
Naphthalene	ND		3.0	0.93	ug/L			12/20/23 02:46	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/20/23 02:46	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			12/20/23 02:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/20/23 02:46*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/20/23 02:46*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*12/20/23 02:46*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*12/20/23 02:46*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		1.0	0.26	ug/L			12/20/23 19:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/20/23 19:50*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/20/23 19:50*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/20/23 19:50*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*12/20/23 19:50*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	10	ug/L			12/18/23 20:29	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**810**		150	43	mg/L			12/18/23 23:52	100

Client Sample ID: PA-21d-121223
Lab Sample ID: 580-134914-9

Date Collected: 12/12/23 12:13
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		500	270	ug/L			12/19/23 21:22	500
Chloromethane	ND		500	140	ug/L			12/19/23 21:22	500
Vinyl chloride	ND		500	110	ug/L			12/19/23 21:22	500
Bromomethane	ND		500	110	ug/L			12/19/23 21:22	500
Chloroethane	ND		500	180	ug/L			12/19/23 21:22	500
Trichlorofluoromethane	ND		500	180	ug/L			12/19/23 21:22	500
Carbon disulfide	ND		500	270	ug/L			12/19/23 21:22	500
1,1-Dichloroethene	ND		500	140	ug/L			12/19/23 21:22	500
Acetone	**3100**	**J**	7500	1600	ug/L			12/19/23 21:22	500
Methylene Chloride	ND		2500	720	ug/L			12/19/23 21:22	500
Methyl tert-butyl ether	ND		500	220	ug/L			12/19/23 21:22	500
trans-1,2-Dichloroethene	ND		500	200	ug/L			12/19/23 21:22	500
1,1-Dichloroethane	ND		500	110	ug/L			12/19/23 21:22	500
2-Butanone (MEK)	ND		7500	2400	ug/L			12/19/23 21:22	500
2,2-Dichloropropane	ND		500	160	ug/L			12/19/23 21:22	500
cis-1,2-Dichloroethene	ND		500	180	ug/L			12/19/23 21:22	500
Chlorobromomethane	ND		500	150	ug/L			12/19/23 21:22	500
Chloroform	ND		500	130	ug/L			12/19/23 21:22	500
1,1,1-Trichloroethane	ND		500	200	ug/L			12/19/23 21:22	500
Carbon tetrachloride	ND		500	150	ug/L			12/19/23 21:22	500
1,1-Dichloropropene	ND		500	150	ug/L			12/19/23 21:22	500
Benzene	ND		500	120	ug/L			12/19/23 21:22	500
1,2-Dichloroethane	ND		500	210	ug/L			12/19/23 21:22	500
Trichloroethene	ND		500	130	ug/L			12/19/23 21:22	500
1,2-Dichloropropane	ND		500	90	ug/L			12/19/23 21:22	500
4-Methyl-2-pentanone (MIBK)	ND		2500	1300	ug/L			12/19/23 21:22	500
Dibromomethane	ND		500	170	ug/L			12/19/23 21:22	500
Dichlorobromomethane	ND		500	150	ug/L			12/19/23 21:22	500
cis-1,3-Dichloropropene	ND		500	210	ug/L			12/19/23 21:22	500
Toluene	ND		500	200	ug/L			12/19/23 21:22	500
trans-1,3-Dichloropropene	ND		500	210	ug/L			12/19/23 21:22	500
1,1,2-Trichloroethane	ND		500	120	ug/L			12/19/23 21:22	500
Tetrachloroethene	ND		500	210	ug/L			12/19/23 21:22	500
1,3-Dichloropropane	ND		500	180	ug/L			12/19/23 21:22	500
Dibromochloromethane	ND		500	220	ug/L			12/19/23 21:22	500
Ethylene Dibromide	ND		500	200	ug/L			12/19/23 21:22	500
Chlorobenzene	**11000**		500	220	ug/L			12/19/23 21:22	500
1,1,1,2-Tetrachloroethane	ND		500	90	ug/L			12/19/23 21:22	500
Ethylbenzene	ND		500	250	ug/L			12/19/23 21:22	500
m-Xylene & p-Xylene	ND		1000	270	ug/L			12/19/23 21:22	500
o-Xylene	ND		500	200	ug/L			12/19/23 21:22	500
Styrene	ND		500	270	ug/L			12/19/23 21:22	500
Bromoform	ND		500	260	ug/L			12/19/23 21:22	500
Isopropylbenzene	ND		500	220	ug/L			12/19/23 21:22	500
Bromobenzene	ND		500	220	ug/L			12/19/23 21:22	500
1,1,2,2-Tetrachloroethane	ND		500	260	ug/L			12/19/23 21:22	500
1,2,3-Trichloropropane	ND		500	210	ug/L			12/19/23 21:22	500
N-Propylbenzene	ND		500	250	ug/L			12/19/23 21:22	500
2-Chlorotoluene	ND		500	260	ug/L			12/19/23 21:22	500

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-21d-121223
Lab Sample ID: 580-134914-9
Date Collected: 12/12/23 12:13
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		500	190	ug/L			12/19/23 21:22	500
tert-Butylbenzene	ND		1000	290	ug/L			12/19/23 21:22	500
1,2,4-Trimethylbenzene	ND		1500	310	ug/L			12/19/23 21:22	500
sec-Butylbenzene	ND		500	250	ug/L			12/19/23 21:22	500
4-Isopropyltoluene	ND		500	140	ug/L			12/19/23 21:22	500
1,3-Dichlorobenzene	ND		500	240	ug/L			12/19/23 21:22	500
1,4-Dichlorobenzene	ND		500	230	ug/L			12/19/23 21:22	500
n-Butylbenzene	ND		500	220	ug/L			12/19/23 21:22	500
1,2-Dichlorobenzene	ND		500	230	ug/L			12/19/23 21:22	500
1,2-Dibromo-3-Chloropropane	ND		1500	290	ug/L			12/19/23 21:22	500
1,2,4-Trichlorobenzene	ND		500	170	ug/L			12/19/23 21:22	500
Hexachlorobutadiene	ND		1500	400	ug/L			12/19/23 21:22	500
Naphthalene	ND		1500	470	ug/L			12/19/23 21:22	500
1,2,3-Trichlorobenzene	ND		1000	220	ug/L			12/19/23 21:22	500
1,3,5-Trimethylbenzene	ND		500	280	ug/L			12/19/23 21:22	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/19/23 21:22*	*500*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*12/19/23 21:22*	*500*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*12/19/23 21:22*	*500*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*12/19/23 21:22*	*500*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	10	ug/L			12/18/23 20:44	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**340**		15	4.3	mg/L			12/19/23 00:04	10

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-27d-121223
Lab Sample ID: 580-134914-10
Date Collected: 12/12/23 07:06
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/20/23 03:07	1
Chloromethane	ND		1.0	0.28	ug/L			12/20/23 03:07	1
Vinyl chloride	ND		1.0	0.22	ug/L			12/20/23 03:07	1
Bromomethane	ND		1.0	0.21	ug/L			12/20/23 03:07	1
Chloroethane	ND		1.0	0.35	ug/L			12/20/23 03:07	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/20/23 03:07	1
Carbon disulfide	ND		1.0	0.53	ug/L			12/20/23 03:07	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			12/20/23 03:07	1
Acetone	ND		15	3.2	ug/L			12/20/23 03:07	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/20/23 03:07	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/20/23 03:07	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/20/23 03:07	1
1,1-Dichloroethane	**0.25**	**J**	1.0	0.22	ug/L			12/20/23 03:07	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/20/23 03:07	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/20/23 03:07	1
cis-1,2-Dichloroethene	**0.49**	**J**	1.0	0.35	ug/L			12/20/23 03:07	1
Chlorobromomethane	ND		1.0	0.29	ug/L			12/20/23 03:07	1
Chloroform	ND		1.0	0.26	ug/L			12/20/23 03:07	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/20/23 03:07	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/20/23 03:07	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/20/23 03:07	1
Benzene	ND		1.0	0.24	ug/L			12/20/23 03:07	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			12/20/23 03:07	1
Trichloroethene	ND		1.0	0.26	ug/L			12/20/23 03:07	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			12/20/23 03:07	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/20/23 03:07	1
Dibromomethane	ND		1.0	0.34	ug/L			12/20/23 03:07	1
Dichlorobromomethane	ND		1.0	0.29	ug/L			12/20/23 03:07	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/20/23 03:07	1
Toluene	ND		1.0	0.39	ug/L			12/20/23 03:07	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/20/23 03:07	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			12/20/23 03:07	1
Tetrachloroethene	ND		1.0	0.41	ug/L			12/20/23 03:07	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/20/23 03:07	1
Dibromochloromethane	ND		1.0	0.43	ug/L			12/20/23 03:07	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			12/20/23 03:07	1
Chlorobenzene	ND		1.0	0.44	ug/L			12/20/23 03:07	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			12/20/23 03:07	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/20/23 03:07	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/20/23 03:07	1
o-Xylene	ND		1.0	0.39	ug/L			12/20/23 03:07	1
Styrene	ND		1.0	0.53	ug/L			12/20/23 03:07	1
Bromoform	ND		1.0	0.51	ug/L			12/20/23 03:07	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/20/23 03:07	1
Bromobenzene	ND		1.0	0.43	ug/L			12/20/23 03:07	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			12/20/23 03:07	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/20/23 03:07	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/20/23 03:07	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/20/23 03:07	1

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-27d-121223
Lab Sample ID: 580-134914-10
Date Collected: 12/12/23 07:06
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/20/23 03:07	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			12/20/23 03:07	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/20/23 03:07	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/20/23 03:07	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/20/23 03:07	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/20/23 03:07	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/20/23 03:07	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/20/23 03:07	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/20/23 03:07	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/20/23 03:07	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/20/23 03:07	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/20/23 03:07	1
Naphthalene	ND		3.0	0.93	ug/L			12/20/23 03:07	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/20/23 03:07	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			12/20/23 03:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/20/23 03:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/20/23 03:07*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/20/23 03:07*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*12/20/23 03:07*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	10	ug/L			12/19/23 16:25	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**450**		15	4.3	mg/L			12/19/23 00:16	10

Client Sample ID: PA-04-121223
Lab Sample ID: 580-134914-11
Date Collected: 12/12/23 08:15
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/20/23 18:09	1
Chloromethane	**0.16**	**J**	0.50	0.14	ug/L			12/20/23 18:09	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/20/23 18:09	1
Bromomethane	ND		0.50	0.13	ug/L			12/20/23 18:09	1
Chloroethane	ND		0.50	0.096	ug/L			12/20/23 18:09	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/20/23 18:09	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/20/23 18:09	1
1,1-Dichloroethene	**0.21**		0.20	0.035	ug/L			12/20/23 18:09	1
Acetone	ND		10	3.1	ug/L			12/20/23 18:09	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/20/23 18:09	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/20/23 18:09	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/20/23 18:09	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/20/23 18:09	1
1,1-Dichloroethane	**0.22**		0.20	0.025	ug/L			12/20/23 18:09	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/20/23 18:09	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/20/23 18:09	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/20/23 18:09	1
Chloroform	ND		0.20	0.030	ug/L			12/20/23 18:09	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/20/23 18:09	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/20/23 18:09	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/20/23 18:09	1
Benzene	ND		0.20	0.030	ug/L			12/20/23 18:09	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/20/23 18:09	1
Trichloroethene	ND		0.20	0.066	ug/L			12/20/23 18:09	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/20/23 18:09	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/20/23 18:09	1
Dibromomethane	ND		0.20	0.062	ug/L			12/20/23 18:09	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/20/23 18:09	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/20/23 18:09	1
Toluene	ND		0.20	0.050	ug/L			12/20/23 18:09	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/20/23 18:09	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/20/23 18:09	1
Tetrachloroethene	**0.12**	**J**	0.24	0.084	ug/L			12/20/23 18:09	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/20/23 18:09	1
Dibromochloromethane	ND		0.20	0.055	ug/L			12/20/23 18:09	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/20/23 18:09	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/20/23 18:09	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/20/23 18:09	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/20/23 18:09	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/20/23 18:09	1
o-Xylene	ND		0.50	0.15	ug/L			12/20/23 18:09	1
Styrene	ND		1.0	0.19	ug/L			12/20/23 18:09	1
Bromoform	ND		0.50	0.16	ug/L			12/20/23 18:09	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/20/23 18:09	1
Bromobenzene	ND		0.20	0.038	ug/L			12/20/23 18:09	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/20/23 18:09	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/20/23 18:09	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/20/23 18:09	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/20/23 18:09	1

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-04-121223
Lab Sample ID: 580-134914-11
Date Collected: 12/12/23 08:15
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/20/23 18:09	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/20/23 18:09	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/20/23 18:09	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/20/23 18:09	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/20/23 18:09	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/20/23 18:09	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/20/23 18:09	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/20/23 18:09	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/20/23 18:09	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/20/23 18:09	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/20/23 18:09	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/20/23 18:09	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/20/23 18:09	1
Naphthalene	ND		1.0	0.22	ug/L			12/20/23 18:09	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/20/23 18:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/20/23 18:09*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/20/23 18:09*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/20/23 18:09*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/20/23 18:09*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			12/18/23 19:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**6.1**		1.5	0.43	mg/L			12/19/23 00:27	1

Client Sample ID: PA-10i-121223
Lab Sample ID: 580-134914-12
Date Collected: 12/12/23 10:00
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/21/23 15:09	1
Chloromethane	**0.20**	**J**	0.50	0.14	ug/L			12/21/23 15:09	1
Vinyl chloride	**0.25**		0.10	0.040	ug/L			12/21/23 15:09	1
Bromomethane	ND		0.50	0.13	ug/L			12/21/23 15:09	1
Chloroethane	ND		0.50	0.096	ug/L			12/21/23 15:09	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/21/23 15:09	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/21/23 15:09	1
1,1-Dichloroethene	**0.10**	**J**	0.20	0.035	ug/L			12/21/23 15:09	1
Acetone	ND		10	3.1	ug/L			12/21/23 15:09	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/21/23 15:09	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/21/23 15:09	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/21/23 15:09	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/21/23 15:09	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			12/21/23 15:09	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/21/23 15:09	1
cis-1,2-Dichloroethene	**0.22**		0.20	0.055	ug/L			12/21/23 15:09	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/21/23 15:09	1
Chloroform	ND		0.20	0.030	ug/L			12/21/23 15:09	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/21/23 15:09	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/21/23 15:09	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/21/23 15:09	1
Benzene	**0.051**	**J**	0.20	0.030	ug/L			12/21/23 15:09	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/21/23 15:09	1
Trichloroethene	ND		0.20	0.066	ug/L			12/21/23 15:09	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/21/23 15:09	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/21/23 15:09	1
Dibromomethane	ND		0.20	0.062	ug/L			12/21/23 15:09	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/21/23 15:09	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/21/23 15:09	1
Toluene	ND		0.20	0.050	ug/L			12/21/23 15:09	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/21/23 15:09	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/21/23 15:09	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/21/23 15:09	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/21/23 15:09	1
Dibromochloromethane	ND		0.20	0.055	ug/L			12/21/23 15:09	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/21/23 15:09	1
Chlorobenzene	**0.90**		0.20	0.060	ug/L			12/21/23 15:09	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/21/23 15:09	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/21/23 15:09	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/21/23 15:09	1
o-Xylene	ND		0.50	0.15	ug/L			12/21/23 15:09	1
Styrene	ND		1.0	0.19	ug/L			12/21/23 15:09	1
Bromoform	ND		0.50	0.16	ug/L			12/21/23 15:09	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/21/23 15:09	1
Bromobenzene	ND		0.20	0.038	ug/L			12/21/23 15:09	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/21/23 15:09	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/21/23 15:09	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/21/23 15:09	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/21/23 15:09	1

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-10i-121223
Lab Sample ID: 580-134914-12
Date Collected: 12/12/23 10:00
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/21/23 15:09	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/21/23 15:09	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/21/23 15:09	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/21/23 15:09	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/21/23 15:09	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/21/23 15:09	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/21/23 15:09	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/21/23 15:09	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/21/23 15:09	1
1,2-Dichlorobenzene	**0.22**	**J**	0.30	0.038	ug/L			12/21/23 15:09	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/21/23 15:09	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/21/23 15:09	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/21/23 15:09	1
Naphthalene	ND		1.0	0.22	ug/L			12/21/23 15:09	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/21/23 15:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*12/21/23 15:09*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*12/21/23 15:09*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/21/23 15:09*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*12/21/23 15:09*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		8.0	4.0	ug/L			12/19/23 15:40	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**58**		1.5	0.43	mg/L			12/19/23 00:39	1

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-18d-121223
Lab Sample ID: 580-134914-13
Date Collected: 12/12/23 11:53
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/20/23 01:25	1
Chloromethane	ND		1.0	0.28	ug/L			12/20/23 01:25	1
Vinyl chloride	ND		1.0	0.22	ug/L			12/20/23 01:25	1
Bromomethane	ND		1.0	0.21	ug/L			12/20/23 01:25	1
Chloroethane	ND		1.0	0.35	ug/L			12/20/23 01:25	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/20/23 01:25	1
Carbon disulfide	ND		1.0	0.53	ug/L			12/20/23 01:25	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			12/20/23 01:25	1
Acetone	ND		15	3.2	ug/L			12/20/23 01:25	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/20/23 01:25	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/20/23 01:25	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/20/23 01:25	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			12/20/23 01:25	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/20/23 01:25	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/20/23 01:25	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			12/20/23 01:25	1
Chlorobromomethane	ND		1.0	0.29	ug/L			12/20/23 01:25	1
Chloroform	ND		1.0	0.26	ug/L			12/20/23 01:25	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/20/23 01:25	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/20/23 01:25	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/20/23 01:25	1
Benzene	ND		1.0	0.24	ug/L			12/20/23 01:25	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			12/20/23 01:25	1
Trichloroethene	ND		1.0	0.26	ug/L			12/20/23 01:25	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			12/20/23 01:25	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/20/23 01:25	1
Dibromomethane	ND		1.0	0.34	ug/L			12/20/23 01:25	1
Dichlorobromomethane	ND		1.0	0.29	ug/L			12/20/23 01:25	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/20/23 01:25	1
Toluene	ND		1.0	0.39	ug/L			12/20/23 01:25	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/20/23 01:25	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			12/20/23 01:25	1
Tetrachloroethene	ND		1.0	0.41	ug/L			12/20/23 01:25	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/20/23 01:25	1
Dibromochloromethane	ND		1.0	0.43	ug/L			12/20/23 01:25	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			12/20/23 01:25	1
Chlorobenzene	ND		1.0	0.44	ug/L			12/20/23 01:25	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			12/20/23 01:25	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/20/23 01:25	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/20/23 01:25	1
o-Xylene	ND		1.0	0.39	ug/L			12/20/23 01:25	1
Styrene	ND		1.0	0.53	ug/L			12/20/23 01:25	1
Bromoform	ND		1.0	0.51	ug/L			12/20/23 01:25	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/20/23 01:25	1
Bromobenzene	ND		1.0	0.43	ug/L			12/20/23 01:25	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			12/20/23 01:25	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/20/23 01:25	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/20/23 01:25	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/20/23 01:25	1

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-18d-121223
Lab Sample ID: 580-134914-13
Date Collected: 12/12/23 11:53
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/20/23 01:25	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			12/20/23 01:25	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/20/23 01:25	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/20/23 01:25	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/20/23 01:25	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/20/23 01:25	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/20/23 01:25	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/20/23 01:25	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/20/23 01:25	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/20/23 01:25	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/20/23 01:25	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/20/23 01:25	1
Naphthalene	ND		3.0	0.93	ug/L			12/20/23 01:25	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/20/23 01:25	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			12/20/23 01:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/20/23 01:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/20/23 01:25*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/20/23 01:25*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*12/20/23 01:25*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	10	ug/L			12/18/23 20:00	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**54**		1.5	0.43	mg/L			12/19/23 00:51	1

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-31-121223
Lab Sample ID: 580-134914-14
Date Collected: 12/12/23 13:42
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/20/23 18:29	1
Chloromethane	ND		0.50	0.14	ug/L			12/20/23 18:29	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/20/23 18:29	1
Bromomethane	ND		0.50	0.13	ug/L			12/20/23 18:29	1
Chloroethane	ND		0.50	0.096	ug/L			12/20/23 18:29	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/20/23 18:29	1
Trichlorofluoromethane	ND	F1	0.50	0.12	ug/L			12/20/23 18:29	1
1,1-Dichloroethene	**0.80**		0.20	0.035	ug/L			12/20/23 18:29	1
Acetone	ND		10	3.1	ug/L			12/20/23 18:29	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/20/23 18:29	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/20/23 18:29	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/20/23 18:29	1
trans-1,2-Dichloroethene	ND	F1	0.20	0.033	ug/L			12/20/23 18:29	1
1,1-Dichloroethane	**0.21**	**F1**	0.20	0.025	ug/L			12/20/23 18:29	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/20/23 18:29	1
cis-1,2-Dichloroethene	ND	F1	0.20	0.055	ug/L			12/20/23 18:29	1
Chlorobromomethane	ND	F1	0.20	0.050	ug/L			12/20/23 18:29	1
Chloroform	**0.052**	**J F1**	0.20	0.030	ug/L			12/20/23 18:29	1
1,1,1-Trichloroethane	**0.22**	**F1**	0.20	0.025	ug/L			12/20/23 18:29	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/20/23 18:29	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/20/23 18:29	1
Benzene	ND	F1	0.20	0.030	ug/L			12/20/23 18:29	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/20/23 18:29	1
Trichloroethene	**0.090**	**J F1**	0.20	0.066	ug/L			12/20/23 18:29	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/20/23 18:29	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/20/23 18:29	1
Dibromomethane	ND		0.20	0.062	ug/L			12/20/23 18:29	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/20/23 18:29	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/20/23 18:29	1
Toluene	ND		0.20	0.050	ug/L			12/20/23 18:29	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/20/23 18:29	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/20/23 18:29	1
Tetrachloroethene	**0.21**	**J**	0.24	0.084	ug/L			12/20/23 18:29	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/20/23 18:29	1
Dibromochloromethane	ND		0.20	0.055	ug/L			12/20/23 18:29	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/20/23 18:29	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/20/23 18:29	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/20/23 18:29	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/20/23 18:29	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/20/23 18:29	1
o-Xylene	ND		0.50	0.15	ug/L			12/20/23 18:29	1
Styrene	ND		1.0	0.19	ug/L			12/20/23 18:29	1
Bromoform	ND		0.50	0.16	ug/L			12/20/23 18:29	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/20/23 18:29	1
Bromobenzene	ND		0.20	0.038	ug/L			12/20/23 18:29	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/20/23 18:29	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/20/23 18:29	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/20/23 18:29	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/20/23 18:29	1

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-31-121223
Lab Sample ID: 580-134914-14
Date Collected: 12/12/23 13:42
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/20/23 18:29	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/20/23 18:29	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/20/23 18:29	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/20/23 18:29	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/20/23 18:29	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/20/23 18:29	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/20/23 18:29	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/20/23 18:29	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/20/23 18:29	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/20/23 18:29	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/20/23 18:29	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/20/23 18:29	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/20/23 18:29	1
Naphthalene	ND		1.0	0.22	ug/L			12/20/23 18:29	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/20/23 18:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/20/23 18:29*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*12/20/23 18:29*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*12/20/23 18:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/20/23 18:29*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			12/18/23 18:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**6.4**		1.5	0.43	mg/L			12/19/23 01:02	1

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-19d-121323
Lab Sample ID: 580-134914-15
Date Collected: 12/13/23 06:40
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		200	110	ug/L			12/20/23 05:49	200
Chloromethane	ND		200	56	ug/L			12/20/23 05:49	200
Vinyl chloride	ND		200	44	ug/L			12/20/23 05:49	200
Bromomethane	ND		200	42	ug/L			12/20/23 05:49	200
Chloroethane	ND		200	70	ug/L			12/20/23 05:49	200
Trichlorofluoromethane	ND		200	72	ug/L			12/20/23 05:49	200
Carbon disulfide	ND		200	110	ug/L			12/20/23 05:49	200
1,1-Dichloroethene	ND		200	56	ug/L			12/20/23 05:49	200
Methylene Chloride	ND		1000	290	ug/L			12/20/23 05:49	200
Methyl tert-butyl ether	ND		200	88	ug/L			12/20/23 05:49	200
trans-1,2-Dichloroethene	ND		200	78	ug/L			12/20/23 05:49	200
1,1-Dichloroethane	ND		200	44	ug/L			12/20/23 05:49	200
2-Butanone (MEK)	ND		3000	940	ug/L			12/20/23 05:49	200
2,2-Dichloropropane	ND		200	64	ug/L			12/20/23 05:49	200
cis-1,2-Dichloroethene	ND		200	70	ug/L			12/20/23 05:49	200
Chlorobromomethane	ND		200	58	ug/L			12/20/23 05:49	200
Chloroform	ND		200	52	ug/L			12/20/23 05:49	200
1,1,1-Trichloroethane	ND		200	78	ug/L			12/20/23 05:49	200
Carbon tetrachloride	ND		200	60	ug/L			12/20/23 05:49	200
1,1-Dichloropropene	ND		200	58	ug/L			12/20/23 05:49	200
Benzene	ND		200	48	ug/L			12/20/23 05:49	200
1,2-Dichloroethane	ND		200	84	ug/L			12/20/23 05:49	200
Trichloroethene	ND		200	52	ug/L			12/20/23 05:49	200
1,2-Dichloropropane	ND		200	36	ug/L			12/20/23 05:49	200
4-Methyl-2-pentanone (MIBK)	ND		1000	500	ug/L			12/20/23 05:49	200
Dibromomethane	ND		200	68	ug/L			12/20/23 05:49	200
Dichlorobromomethane	ND		200	58	ug/L			12/20/23 05:49	200
cis-1,3-Dichloropropene	ND		200	84	ug/L			12/20/23 05:49	200
Toluene	ND		200	78	ug/L			12/20/23 05:49	200
trans-1,3-Dichloropropene	ND		200	82	ug/L			12/20/23 05:49	200
1,1,2-Trichloroethane	ND		200	48	ug/L			12/20/23 05:49	200
Tetrachloroethene	ND		200	82	ug/L			12/20/23 05:49	200
1,3-Dichloropropane	ND		200	70	ug/L			12/20/23 05:49	200
Dibromochloromethane	ND		200	86	ug/L			12/20/23 05:49	200
Ethylene Dibromide	ND		200	80	ug/L			12/20/23 05:49	200
Chlorobenzene	**7600**		200	88	ug/L			12/20/23 05:49	200
1,1,1,2-Tetrachloroethane	ND		200	36	ug/L			12/20/23 05:49	200
Ethylbenzene	ND		200	100	ug/L			12/20/23 05:49	200
m-Xylene & p-Xylene	ND		400	110	ug/L			12/20/23 05:49	200
o-Xylene	ND		200	78	ug/L			12/20/23 05:49	200
Styrene	ND		200	110	ug/L			12/20/23 05:49	200
Bromoform	ND		200	100	ug/L			12/20/23 05:49	200
Isopropylbenzene	ND		200	88	ug/L			12/20/23 05:49	200
Bromobenzene	ND		200	86	ug/L			12/20/23 05:49	200
1,1,2,2-Tetrachloroethane	ND		200	100	ug/L			12/20/23 05:49	200
1,2,3-Trichloropropane	ND		200	82	ug/L			12/20/23 05:49	200
N-Propylbenzene	ND		200	100	ug/L			12/20/23 05:49	200
2-Chlorotoluene	ND		200	100	ug/L			12/20/23 05:49	200
4-Chlorotoluene	ND		200	76	ug/L			12/20/23 05:49	200

Client Sample ID: PA-19d-121323
Lab Sample ID: 580-134914-15
Date Collected: 12/13/23 06:40
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		400	120	ug/L			12/20/23 05:49	200
1,2,4-Trimethylbenzene	ND		600	120	ug/L			12/20/23 05:49	200
sec-Butylbenzene	ND		200	98	ug/L			12/20/23 05:49	200
4-Isopropyltoluene	ND		200	56	ug/L			12/20/23 05:49	200
1,3-Dichlorobenzene	ND		200	96	ug/L			12/20/23 05:49	200
1,4-Dichlorobenzene	ND		200	92	ug/L			12/20/23 05:49	200
n-Butylbenzene	ND		200	88	ug/L			12/20/23 05:49	200
1,2-Dichlorobenzene	ND		200	92	ug/L			12/20/23 05:49	200
1,2-Dibromo-3-Chloropropane	ND		600	110	ug/L			12/20/23 05:49	200
1,2,4-Trichlorobenzene	ND		200	66	ug/L			12/20/23 05:49	200
Hexachlorobutadiene	ND		600	160	ug/L			12/20/23 05:49	200
Naphthalene	ND		600	190	ug/L			12/20/23 05:49	200
1,2,3-Trichlorobenzene	ND		400	86	ug/L			12/20/23 05:49	200
1,3,5-Trimethylbenzene	ND		200	110	ug/L			12/20/23 05:49	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/20/23 05:49*	*200*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*		*12/20/23 05:49*	*200*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/20/23 05:49*	*200*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*12/20/23 05:49*	*200*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		3000	640	ug/L			12/20/23 21:51	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/20/23 21:51*	*200*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*12/20/23 21:51*	*200*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*12/20/23 21:51*	*200*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/20/23 21:51*	*200*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	10	ug/L			12/18/23 20:15	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**340**		15	4.3	mg/L			12/19/23 02:01	10

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-30d-121323
Lab Sample ID: 580-134914-16
Date Collected: 12/13/23 07:31
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		200	110	ug/L			12/20/23 22:11	200
Chloromethane	ND		200	56	ug/L			12/20/23 22:11	200
Vinyl chloride	ND		200	44	ug/L			12/20/23 22:11	200
Bromomethane	ND		200	42	ug/L			12/20/23 22:11	200
Chloroethane	ND		200	70	ug/L			12/20/23 22:11	200
Trichlorofluoromethane	ND		200	72	ug/L			12/20/23 22:11	200
Carbon disulfide	ND		200	110	ug/L			12/20/23 22:11	200
1,1-Dichloroethene	ND		200	56	ug/L			12/20/23 22:11	200
Acetone	ND		3000	640	ug/L			12/20/23 22:11	200
Methylene Chloride	ND		1000	290	ug/L			12/20/23 22:11	200
Methyl tert-butyl ether	ND		200	88	ug/L			12/20/23 22:11	200
trans-1,2-Dichloroethene	ND		200	78	ug/L			12/20/23 22:11	200
1,1-Dichloroethane	ND		200	44	ug/L			12/20/23 22:11	200
2-Butanone (MEK)	ND		3000	940	ug/L			12/20/23 22:11	200
2,2-Dichloropropane	ND		200	64	ug/L			12/20/23 22:11	200
cis-1,2-Dichloroethene	ND		200	70	ug/L			12/20/23 22:11	200
Chlorobromomethane	ND		200	58	ug/L			12/20/23 22:11	200
Chloroform	ND		200	52	ug/L			12/20/23 22:11	200
1,1,1-Trichloroethane	ND		200	78	ug/L			12/20/23 22:11	200
Carbon tetrachloride	ND		200	60	ug/L			12/20/23 22:11	200
1,1-Dichloropropene	ND		200	58	ug/L			12/20/23 22:11	200
Benzene	ND		200	48	ug/L			12/20/23 22:11	200
1,2-Dichloroethane	ND		200	84	ug/L			12/20/23 22:11	200
Trichloroethene	ND		200	52	ug/L			12/20/23 22:11	200
1,2-Dichloropropane	ND		200	36	ug/L			12/20/23 22:11	200
4-Methyl-2-pentanone (MIBK)	ND		1000	500	ug/L			12/20/23 22:11	200
Dibromomethane	ND		200	68	ug/L			12/20/23 22:11	200
Dichlorobromomethane	ND		200	58	ug/L			12/20/23 22:11	200
cis-1,3-Dichloropropene	ND		200	84	ug/L			12/20/23 22:11	200
Toluene	ND		200	78	ug/L			12/20/23 22:11	200
trans-1,3-Dichloropropene	ND		200	82	ug/L			12/20/23 22:11	200
1,1,2-Trichloroethane	ND		200	48	ug/L			12/20/23 22:11	200
Tetrachloroethene	ND		200	82	ug/L			12/20/23 22:11	200
1,3-Dichloropropane	ND		200	70	ug/L			12/20/23 22:11	200
Dibromochloromethane	ND		200	86	ug/L			12/20/23 22:11	200
Ethylene Dibromide	ND		200	80	ug/L			12/20/23 22:11	200
1,1,1,2-Tetrachloroethane	ND		200	36	ug/L			12/20/23 22:11	200
Ethylbenzene	ND		200	100	ug/L			12/20/23 22:11	200
m-Xylene & p-Xylene	ND		400	110	ug/L			12/20/23 22:11	200
o-Xylene	ND		200	78	ug/L			12/20/23 22:11	200
Styrene	ND		200	110	ug/L			12/20/23 22:11	200
Bromoform	ND		200	100	ug/L			12/20/23 22:11	200
Isopropylbenzene	ND		200	88	ug/L			12/20/23 22:11	200
Bromobenzene	ND		200	86	ug/L			12/20/23 22:11	200
1,1,2,2-Tetrachloroethane	ND		200	100	ug/L			12/20/23 22:11	200
1,2,3-Trichloropropane	ND		200	82	ug/L			12/20/23 22:11	200
N-Propylbenzene	ND		200	100	ug/L			12/20/23 22:11	200
2-Chlorotoluene	ND		200	100	ug/L			12/20/23 22:11	200
4-Chlorotoluene	ND		200	76	ug/L			12/20/23 22:11	200

Client Sample ID: PA-30d-121323
Lab Sample ID: 580-134914-16
Date Collected: 12/13/23 07:31
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		400	120	ug/L			12/20/23 22:11	200
1,2,4-Trimethylbenzene	ND		600	120	ug/L			12/20/23 22:11	200
sec-Butylbenzene	ND		200	98	ug/L			12/20/23 22:11	200
4-Isopropyltoluene	ND		200	56	ug/L			12/20/23 22:11	200
1,3-Dichlorobenzene	ND		200	96	ug/L			12/20/23 22:11	200
1,4-Dichlorobenzene	ND		200	92	ug/L			12/20/23 22:11	200
n-Butylbenzene	ND		200	88	ug/L			12/20/23 22:11	200
1,2-Dichlorobenzene	ND		200	92	ug/L			12/20/23 22:11	200
1,2-Dibromo-3-Chloropropane	ND		600	110	ug/L			12/20/23 22:11	200
1,2,4-Trichlorobenzene	ND		200	66	ug/L			12/20/23 22:11	200
Hexachlorobutadiene	ND		600	160	ug/L			12/20/23 22:11	200
Naphthalene	ND		600	190	ug/L			12/20/23 22:11	200
1,2,3-Trichlorobenzene	ND		400	86	ug/L			12/20/23 22:11	200
1,3,5-Trimethylbenzene	ND		200	110	ug/L			12/20/23 22:11	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*80 - 120*		*12/20/23 22:11*	*200*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*12/20/23 22:11*	*200*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/20/23 22:11*	*200*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*12/20/23 22:11*	*200*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	**22000**		1000	440	ug/L			12/21/23 17:51	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*80 - 120*		*12/21/23 17:51*	*1000*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/21/23 17:51*	*1000*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/21/23 17:51*	*1000*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*12/21/23 17:51*	*1000*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	10	ug/L			12/18/23 19:43	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**320**		15	4.3	mg/L			12/19/23 02:24	10

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: RB-02-121323
Lab Sample ID: 580-134914-17
Date Collected: 12/13/23 05:30
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/20/23 01:46	1
Chloromethane	ND		0.50	0.14	ug/L			12/20/23 01:46	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/20/23 01:46	1
Bromomethane	ND		0.50	0.13	ug/L			12/20/23 01:46	1
Chloroethane	ND		0.50	0.096	ug/L			12/20/23 01:46	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/20/23 01:46	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/20/23 01:46	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/20/23 01:46	1
Acetone	ND		10	3.1	ug/L			12/20/23 01:46	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/20/23 01:46	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/20/23 01:46	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/20/23 01:46	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/20/23 01:46	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			12/20/23 01:46	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/20/23 01:46	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/20/23 01:46	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/20/23 01:46	1
Chloroform	ND		0.20	0.030	ug/L			12/20/23 01:46	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/20/23 01:46	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/20/23 01:46	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/20/23 01:46	1
Benzene	ND		0.20	0.030	ug/L			12/20/23 01:46	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/20/23 01:46	1
Trichloroethene	ND		0.20	0.066	ug/L			12/20/23 01:46	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/20/23 01:46	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/20/23 01:46	1
Dibromomethane	ND		0.20	0.062	ug/L			12/20/23 01:46	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/20/23 01:46	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/20/23 01:46	1
Toluene	ND		0.20	0.050	ug/L			12/20/23 01:46	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/20/23 01:46	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/20/23 01:46	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/20/23 01:46	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/20/23 01:46	1
Dibromochloromethane	ND		0.20	0.055	ug/L			12/20/23 01:46	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/20/23 01:46	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/20/23 01:46	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/20/23 01:46	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/20/23 01:46	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/20/23 01:46	1
o-Xylene	ND		0.50	0.15	ug/L			12/20/23 01:46	1
Styrene	ND		1.0	0.19	ug/L			12/20/23 01:46	1
Bromoform	ND		0.50	0.16	ug/L			12/20/23 01:46	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/20/23 01:46	1
Bromobenzene	ND		0.20	0.038	ug/L			12/20/23 01:46	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/20/23 01:46	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/20/23 01:46	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/20/23 01:46	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/20/23 01:46	1

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: RB-02-121323
Lab Sample ID: 580-134914-17
Date Collected: 12/13/23 05:30
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/20/23 01:46	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/20/23 01:46	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/20/23 01:46	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/20/23 01:46	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/20/23 01:46	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/20/23 01:46	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/20/23 01:46	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/20/23 01:46	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/20/23 01:46	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/20/23 01:46	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/20/23 01:46	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/20/23 01:46	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/20/23 01:46	1
Naphthalene	ND		1.0	0.22	ug/L			12/20/23 01:46	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/20/23 01:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/20/23 01:46*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*12/20/23 01:46*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*12/20/23 01:46*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*12/20/23 01:46*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			12/18/23 19:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	ND		1.5	0.43	mg/L			12/19/23 02:36	1

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-32i-121323
Lab Sample ID: 580-134914-18
Date Collected: 12/13/23 07:39
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/20/23 17:48	1
Chloromethane	ND		0.50	0.14	ug/L			12/20/23 17:48	1
Vinyl chloride	**0.083**	**J**	0.10	0.040	ug/L			12/20/23 17:48	1
Bromomethane	ND		0.50	0.13	ug/L			12/20/23 17:48	1
Chloroethane	**0.19**	**J**	0.50	0.096	ug/L			12/20/23 17:48	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/20/23 17:48	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/20/23 17:48	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/20/23 17:48	1
Acetone	ND		10	3.1	ug/L			12/20/23 17:48	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/20/23 17:48	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/20/23 17:48	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/20/23 17:48	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/20/23 17:48	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			12/20/23 17:48	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/20/23 17:48	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/20/23 17:48	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/20/23 17:48	1
Chloroform	ND		0.20	0.030	ug/L			12/20/23 17:48	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/20/23 17:48	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/20/23 17:48	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/20/23 17:48	1
Benzene	**0.030**	**J**	0.20	0.030	ug/L			12/20/23 17:48	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/20/23 17:48	1
Trichloroethene	ND		0.20	0.066	ug/L			12/20/23 17:48	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/20/23 17:48	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/20/23 17:48	1
Dibromomethane	ND		0.20	0.062	ug/L			12/20/23 17:48	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/20/23 17:48	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/20/23 17:48	1
Toluene	ND		0.20	0.050	ug/L			12/20/23 17:48	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/20/23 17:48	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/20/23 17:48	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/20/23 17:48	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/20/23 17:48	1
Dibromochloromethane	ND		0.20	0.055	ug/L			12/20/23 17:48	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/20/23 17:48	1
Chlorobenzene	**0.15**	**J**	0.20	0.060	ug/L			12/20/23 17:48	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/20/23 17:48	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/20/23 17:48	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/20/23 17:48	1
o-Xylene	ND		0.50	0.15	ug/L			12/20/23 17:48	1
Styrene	ND		1.0	0.19	ug/L			12/20/23 17:48	1
Bromoform	ND		0.50	0.16	ug/L			12/20/23 17:48	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/20/23 17:48	1
Bromobenzene	ND		0.20	0.038	ug/L			12/20/23 17:48	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/20/23 17:48	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/20/23 17:48	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/20/23 17:48	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/20/23 17:48	1

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-32i-121323
Lab Sample ID: 580-134914-18
Date Collected: 12/13/23 07:39
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/20/23 17:48	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/20/23 17:48	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/20/23 17:48	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/20/23 17:48	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/20/23 17:48	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/20/23 17:48	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/20/23 17:48	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/20/23 17:48	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/20/23 17:48	1
1,2-Dichlorobenzene	**0.12**	**J**	0.30	0.038	ug/L			12/20/23 17:48	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/20/23 17:48	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/20/23 17:48	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/20/23 17:48	1
Naphthalene	ND		1.0	0.22	ug/L			12/20/23 17:48	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/20/23 17:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/20/23 17:48*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*12/20/23 17:48*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/20/23 17:48*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*12/20/23 17:48*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		8.0	4.0	ug/L			12/19/23 15:55	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**32**		1.5	0.43	mg/L			12/19/23 02:48	1

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: DUP-02-121323
Lab Sample ID: 580-134914-19
Date Collected: 12/13/23 07:40
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/21/23 17:10	1
Chloromethane	**0.22**	**J**	0.50	0.14	ug/L			12/21/23 17:10	1
Vinyl chloride	**0.072**	**J**	0.10	0.040	ug/L			12/21/23 17:10	1
Bromomethane	ND		0.50	0.13	ug/L			12/21/23 17:10	1
Chloroethane	**0.18**	**J**	0.50	0.096	ug/L			12/21/23 17:10	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/21/23 17:10	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/21/23 17:10	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/21/23 17:10	1
Acetone	ND		10	3.1	ug/L			12/21/23 17:10	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/21/23 17:10	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/21/23 17:10	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/21/23 17:10	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/21/23 17:10	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			12/21/23 17:10	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/21/23 17:10	1
cis-1,2-Dichloroethene	**0.065**	**J**	0.20	0.055	ug/L			12/21/23 17:10	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/21/23 17:10	1
Chloroform	ND		0.20	0.030	ug/L			12/21/23 17:10	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/21/23 17:10	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/21/23 17:10	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/21/23 17:10	1
Benzene	**0.031**	**J**	0.20	0.030	ug/L			12/21/23 17:10	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/21/23 17:10	1
Trichloroethene	ND		0.20	0.066	ug/L			12/21/23 17:10	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/21/23 17:10	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/21/23 17:10	1
Dibromomethane	ND		0.20	0.062	ug/L			12/21/23 17:10	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/21/23 17:10	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/21/23 17:10	1
Toluene	ND		0.20	0.050	ug/L			12/21/23 17:10	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/21/23 17:10	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/21/23 17:10	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/21/23 17:10	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/21/23 17:10	1
Dibromochloromethane	ND		0.20	0.055	ug/L			12/21/23 17:10	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/21/23 17:10	1
Chlorobenzene	**0.18**	**J**	0.20	0.060	ug/L			12/21/23 17:10	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/21/23 17:10	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/21/23 17:10	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/21/23 17:10	1
o-Xylene	ND		0.50	0.15	ug/L			12/21/23 17:10	1
Styrene	ND		1.0	0.19	ug/L			12/21/23 17:10	1
Bromoform	ND		0.50	0.16	ug/L			12/21/23 17:10	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/21/23 17:10	1
Bromobenzene	ND		0.20	0.038	ug/L			12/21/23 17:10	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/21/23 17:10	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/21/23 17:10	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/21/23 17:10	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/21/23 17:10	1

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: DUP-02-121323
Lab Sample ID: 580-134914-19
Date Collected: 12/13/23 07:40
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/21/23 17:10	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/21/23 17:10	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/21/23 17:10	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/21/23 17:10	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/21/23 17:10	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/21/23 17:10	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/21/23 17:10	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/21/23 17:10	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/21/23 17:10	1
1,2-Dichlorobenzene	**0.13**	**J**	0.30	0.038	ug/L			12/21/23 17:10	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/21/23 17:10	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/21/23 17:10	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/21/23 17:10	1
Naphthalene	ND		1.0	0.22	ug/L			12/21/23 17:10	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/21/23 17:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*12/21/23 17:10*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*12/21/23 17:10*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/21/23 17:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*12/21/23 17:10*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		8.0	4.0	ug/L			12/19/23 16:10	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**34**		1.5	0.43	mg/L			12/19/23 02:59	1

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: MWA-11i(d)-121323
Lab Sample ID: 580-134914-20
Date Collected: 12/13/23 09:00
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/21/23 16:30	1
Chloromethane	ND		0.50	0.14	ug/L			12/21/23 16:30	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/21/23 16:30	1
Bromomethane	ND		0.50	0.13	ug/L			12/21/23 16:30	1
Chloroethane	ND		0.50	0.096	ug/L			12/21/23 16:30	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/21/23 16:30	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/21/23 16:30	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/21/23 16:30	1
Acetone	ND		10	3.1	ug/L			12/21/23 16:30	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/21/23 16:30	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/21/23 16:30	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/21/23 16:30	1
trans-1,2-Dichloroethene	**0.037**	**J**	0.20	0.033	ug/L			12/21/23 16:30	1
1,1-Dichloroethane	**0.029**	**J**	0.20	0.025	ug/L			12/21/23 16:30	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/21/23 16:30	1
cis-1,2-Dichloroethene	**0.32**		0.20	0.055	ug/L			12/21/23 16:30	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/21/23 16:30	1
Chloroform	ND		0.20	0.030	ug/L			12/21/23 16:30	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/21/23 16:30	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/21/23 16:30	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/21/23 16:30	1
Benzene	**0.031**	**J**	0.20	0.030	ug/L			12/21/23 16:30	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/21/23 16:30	1
Trichloroethene	ND		0.20	0.066	ug/L			12/21/23 16:30	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/21/23 16:30	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/21/23 16:30	1
Dibromomethane	ND		0.20	0.062	ug/L			12/21/23 16:30	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/21/23 16:30	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/21/23 16:30	1
Toluene	ND		0.20	0.050	ug/L			12/21/23 16:30	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/21/23 16:30	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/21/23 16:30	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/21/23 16:30	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/21/23 16:30	1
Dibromochloromethane	ND		0.20	0.055	ug/L			12/21/23 16:30	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/21/23 16:30	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/21/23 16:30	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/21/23 16:30	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/21/23 16:30	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/21/23 16:30	1
o-Xylene	ND		0.50	0.15	ug/L			12/21/23 16:30	1
Styrene	ND		1.0	0.19	ug/L			12/21/23 16:30	1
Bromoform	ND		0.50	0.16	ug/L			12/21/23 16:30	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/21/23 16:30	1
Bromobenzene	ND		0.20	0.038	ug/L			12/21/23 16:30	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/21/23 16:30	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/21/23 16:30	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/21/23 16:30	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/21/23 16:30	1

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: MWA-11i(d)-121323
Lab Sample ID: 580-134914-20
Date Collected: 12/13/23 09:00
Matrix: Water
Date Received: 12/14/23 11:13

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/21/23 16:30	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/21/23 16:30	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/21/23 16:30	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/21/23 16:30	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/21/23 16:30	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/21/23 16:30	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/21/23 16:30	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/21/23 16:30	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/21/23 16:30	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/21/23 16:30	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/21/23 16:30	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/21/23 16:30	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/21/23 16:30	1
Naphthalene	ND		1.0	0.22	ug/L			12/21/23 16:30	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/21/23 16:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*80 - 120*		*12/21/23 16:30*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*12/21/23 16:30*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/21/23 16:30*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/21/23 16:30*	*1*

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	10	ug/L			12/18/23 19:37	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**780**		15	4.3	mg/L			12/19/23 03:11	10

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-446612/7
Matrix: Water
Analysis Batch: 446612

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.53	ug/L			12/19/23 14:03	1
Chloromethane	ND		1.0	0.28	ug/L			12/19/23 14:03	1
Vinyl chloride	ND		1.0	0.22	ug/L			12/19/23 14:03	1
Bromomethane	ND		1.0	0.21	ug/L			12/19/23 14:03	1
Chloroethane	ND		1.0	0.35	ug/L			12/19/23 14:03	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			12/19/23 14:03	1
Carbon disulfide	ND		1.0	0.53	ug/L			12/19/23 14:03	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			12/19/23 14:03	1
Acetone	ND		15	3.2	ug/L			12/19/23 14:03	1
Methylene Chloride	ND		5.0	1.4	ug/L			12/19/23 14:03	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			12/19/23 14:03	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			12/19/23 14:03	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			12/19/23 14:03	1
2-Butanone (MEK)	ND		15	4.7	ug/L			12/19/23 14:03	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			12/19/23 14:03	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			12/19/23 14:03	1
Chlorobromomethane	ND		1.0	0.29	ug/L			12/19/23 14:03	1
Chloroform	ND		1.0	0.26	ug/L			12/19/23 14:03	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			12/19/23 14:03	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			12/19/23 14:03	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			12/19/23 14:03	1
Benzene	ND		1.0	0.24	ug/L			12/19/23 14:03	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			12/19/23 14:03	1
Trichloroethene	ND		1.0	0.26	ug/L			12/19/23 14:03	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			12/19/23 14:03	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			12/19/23 14:03	1
Dibromomethane	ND		1.0	0.34	ug/L			12/19/23 14:03	1
Dichlorobromomethane	ND		1.0	0.29	ug/L			12/19/23 14:03	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			12/19/23 14:03	1
Toluene	ND		1.0	0.39	ug/L			12/19/23 14:03	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			12/19/23 14:03	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			12/19/23 14:03	1
Tetrachloroethene	ND		1.0	0.41	ug/L			12/19/23 14:03	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			12/19/23 14:03	1
Dibromochloromethane	ND		1.0	0.43	ug/L			12/19/23 14:03	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			12/19/23 14:03	1
Chlorobenzene	ND		1.0	0.44	ug/L			12/19/23 14:03	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			12/19/23 14:03	1
Ethylbenzene	ND		1.0	0.50	ug/L			12/19/23 14:03	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			12/19/23 14:03	1
o-Xylene	ND		1.0	0.39	ug/L			12/19/23 14:03	1
Styrene	ND		1.0	0.53	ug/L			12/19/23 14:03	1
Bromoform	ND		1.0	0.51	ug/L			12/19/23 14:03	1
Isopropylbenzene	ND		1.0	0.44	ug/L			12/19/23 14:03	1
Bromobenzene	ND		1.0	0.43	ug/L			12/19/23 14:03	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			12/19/23 14:03	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			12/19/23 14:03	1
N-Propylbenzene	ND		1.0	0.50	ug/L			12/19/23 14:03	1

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

Lab Sample ID: MB 580-446612/7
Matrix: Water
Analysis Batch: 446612

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		1.0	0.51	ug/L			12/19/23 14:03	1
4-Chlorotoluene	ND		1.0	0.38	ug/L			12/19/23 14:03	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			12/19/23 14:03	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			12/19/23 14:03	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			12/19/23 14:03	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			12/19/23 14:03	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			12/19/23 14:03	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			12/19/23 14:03	1
n-Butylbenzene	ND		1.0	0.44	ug/L			12/19/23 14:03	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			12/19/23 14:03	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			12/19/23 14:03	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			12/19/23 14:03	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			12/19/23 14:03	1
Naphthalene	ND		3.0	0.93	ug/L			12/19/23 14:03	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			12/19/23 14:03	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			12/19/23 14:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/19/23 14:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*12/19/23 14:03*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/19/23 14:03*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*12/19/23 14:03*	*1*

Lab Sample ID: LCS 580-446612/4
Matrix: Water
Analysis Batch: 446612

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	5.00	3.76		ug/L		75	20 - 150
Chloromethane	5.00	4.92		ug/L		98	25 - 150
Vinyl chloride	5.00	4.75		ug/L		95	31 - 150
Bromomethane	5.00	4.89		ug/L		98	36 - 150
Chloroethane	5.00	5.24		ug/L		105	38 - 150
Trichlorofluoromethane	5.00	5.08		ug/L		102	45 - 148
Carbon disulfide	5.00	4.23		ug/L		85	63 - 134
1,1-Dichloroethene	5.00	4.48		ug/L		90	70 - 129
Acetone	25.0	28.8		ug/L		115	44 - 150
Methylene Chloride	5.00	5.10		ug/L		102	77 - 125
Methyl tert-butyl ether	5.00	5.38		ug/L		108	72 - 120
trans-1,2-Dichloroethene	5.00	4.53		ug/L		91	75 - 120
1,1-Dichloroethane	5.00	4.73		ug/L		95	80 - 120
2-Butanone (MEK)	25.0	30.9		ug/L		124	65 - 137
2,2-Dichloropropane	5.00	5.00		ug/L		100	66 - 126
cis-1,2-Dichloroethene	5.00	5.01		ug/L		100	76 - 120
Chlorobromomethane	5.00	4.87		ug/L		97	78 - 120
Chloroform	5.00	4.96		ug/L		99	78 - 127
1,1,1-Trichloroethane	5.00	4.89		ug/L		98	74 - 130
Carbon tetrachloride	5.00	4.66		ug/L		93	72 - 129

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

Lab Sample ID: LCS 580-446612/4
Matrix: Water
Analysis Batch: 446612

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloropropene	5.00	4.46		ug/L		89	74 - 120
Benzene	5.00	4.73		ug/L		95	80 - 122
1,2-Dichloroethane	5.00	4.87		ug/L		97	69 - 126
Trichloroethene	5.00	4.72		ug/L		94	80 - 125
1,2-Dichloropropane	5.00	4.94		ug/L		99	80 - 120
4-Methyl-2-pentanone (MIBK)	25.0	30.1		ug/L		120	59 - 141
Dibromomethane	5.00	5.37		ug/L		107	80 - 120
Dichlorobromomethane	5.00	5.17		ug/L		103	75 - 124
cis-1,3-Dichloropropene	5.00	4.95		ug/L		99	77 - 120
Toluene	5.00	4.58		ug/L		92	80 - 120
trans-1,3-Dichloropropene	5.00	5.44		ug/L		109	76 - 122
1,1,2-Trichloroethane	5.00	5.39		ug/L		108	80 - 121
Tetrachloroethene	5.00	4.26		ug/L		85	76 - 125
1,3-Dichloropropane	5.00	5.42		ug/L		108	79 - 120
Dibromochloromethane	5.00	5.40		ug/L		108	73 - 125
Ethylene Dibromide	5.00	5.42		ug/L		108	79 - 126
Chlorobenzene	5.00	4.85		ug/L		97	80 - 120
1,1,1,2-Tetrachloroethane	5.00	5.22		ug/L		104	79 - 120
Ethylbenzene	5.00	4.80		ug/L		96	80 - 120
m-Xylene & p-Xylene	5.00	4.71		ug/L		94	80 - 120
o-Xylene	5.00	4.77		ug/L		95	80 - 120
Styrene	5.00	5.04		ug/L		101	76 - 122
Bromoform	5.00	5.66		ug/L		113	56 - 139
Isopropylbenzene	5.00	4.99		ug/L		100	80 - 123
Bromobenzene	5.00	4.76		ug/L		95	80 - 120
1,1,2,2-Tetrachloroethane	5.00	5.86		ug/L		117	74 - 124
1,2,3-Trichloropropane	5.00	5.78		ug/L		116	76 - 124
N-Propylbenzene	5.00	4.70		ug/L		94	80 - 122
2-Chlorotoluene	5.00	4.77		ug/L		95	80 - 120
4-Chlorotoluene	5.00	4.76		ug/L		95	73 - 129
tert-Butylbenzene	5.00	4.73		ug/L		95	75 - 123
1,2,4-Trimethylbenzene	5.00	4.56		ug/L		91	80 - 120
sec-Butylbenzene	5.00	4.71		ug/L		94	78 - 122
4-Isopropyltoluene	5.00	4.68		ug/L		94	77 - 126
1,3-Dichlorobenzene	5.00	4.83		ug/L		97	77 - 127
1,4-Dichlorobenzene	5.00	4.95		ug/L		99	80 - 120
n-Butylbenzene	5.00	4.66		ug/L		93	57 - 133
1,2-Dichlorobenzene	5.00	5.06		ug/L		101	80 - 120
1,2-Dibromo-3-Chloropropane	5.00	5.98		ug/L		120	65 - 133
1,2,4-Trichlorobenzene	5.00	4.96		ug/L		99	61 - 148
Hexachlorobutadiene	5.00	4.92		ug/L		98	74 - 131
Naphthalene	5.00	5.35		ug/L		107	63 - 150
1,2,3-Trichlorobenzene	5.00	5.21		ug/L		104	65 - 150
1,3,5-Trimethylbenzene	5.00	4.63		ug/L		93	80 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 120*

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

Lab Sample ID: LCS 580-446612/4
Matrix: Water
Analysis Batch: 446612

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*

Lab Sample ID: LCSD 580-446612/5
Matrix: Water
Analysis Batch: 446612

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
Dichlorodifluoromethane			5.00	3.84		ug/L		77	20 - 150	2	33
Chloromethane			5.00	4.66		ug/L		93	25 - 150	6	26
Vinyl chloride			5.00	4.64		ug/L		93	31 - 150	2	26
Bromomethane			5.00	4.86		ug/L		97	36 - 150	1	33
Chloroethane			5.00	5.33		ug/L		107	38 - 150	2	28
Trichlorofluoromethane			5.00	4.91		ug/L		98	45 - 148	3	35
Carbon disulfide			5.00	4.07		ug/L		81	63 - 134	4	24
1,1-Dichloroethene			5.00	4.65		ug/L		93	70 - 129	4	23
Acetone			25.0	28.8		ug/L		115	44 - 150	0	33
Methylene Chloride			5.00	5.07		ug/L		101	77 - 125	0	18
Methyl tert-butyl ether			5.00	5.33		ug/L		107	72 - 120	1	18
trans-1,2-Dichloroethene			5.00	4.54		ug/L		91	75 - 120	0	21
1,1-Dichloroethane			5.00	4.74		ug/L		95	80 - 120	0	15
2-Butanone (MEK)			25.0	29.5		ug/L		118	65 - 137	5	34
2,2-Dichloropropane			5.00	4.92		ug/L		98	66 - 126	2	22
cis-1,2-Dichloroethene			5.00	4.91		ug/L		98	76 - 120	2	20
Chlorobromomethane			5.00	4.89		ug/L		98	78 - 120	1	13
Chloroform			5.00	5.03		ug/L		101	78 - 127	2	14
1,1,1-Trichloroethane			5.00	4.82		ug/L		96	74 - 130	1	19
Carbon tetrachloride			5.00	4.70		ug/L		94	72 - 129	1	19
1,1-Dichloropropene			5.00	4.37		ug/L		87	74 - 120	2	14
Benzene			5.00	4.70		ug/L		94	80 - 122	1	14
1,2-Dichloroethane			5.00	4.78		ug/L		96	69 - 126	2	11
Trichloroethene			5.00	4.71		ug/L		94	80 - 125	0	13
1,2-Dichloropropane			5.00	4.94		ug/L		99	80 - 120	0	14
4-Methyl-2-pentanone (MIBK)			25.0	30.5		ug/L		122	59 - 141	1	22
Dibromomethane			5.00	5.30		ug/L		106	80 - 120	1	11
Dichlorobromomethane			5.00	5.11		ug/L		102	75 - 124	1	13
cis-1,3-Dichloropropene			5.00	4.83		ug/L		97	77 - 120	3	35
Toluene			5.00	4.58		ug/L		92	80 - 120	0	13
trans-1,3-Dichloropropene			5.00	5.26		ug/L		105	76 - 122	3	20
1,1,2-Trichloroethane			5.00	5.35		ug/L		107	80 - 121	1	14
Tetrachloroethene			5.00	4.39		ug/L		88	76 - 125	3	13
1,3-Dichloropropane			5.00	5.35		ug/L		107	79 - 120	1	19
Dibromochloromethane			5.00	5.45		ug/L		109	73 - 125	1	13
Ethylene Dibromide			5.00	5.32		ug/L		106	79 - 126	2	12
Chlorobenzene			5.00	4.81		ug/L		96	80 - 120	1	10
1,1,1,2-Tetrachloroethane			5.00	5.21		ug/L		104	79 - 120	0	16
Ethylbenzene			5.00	4.76		ug/L		95	80 - 120	1	14
m-Xylene & p-Xylene			5.00	4.72		ug/L		94	80 - 120	0	14

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

Lab Sample ID: LCSD 580-446612/5
Matrix: Water
Analysis Batch: 446612

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
o-Xylene			5.00	4.78		ug/L		96	80 - 120	0	16
Styrene			5.00	4.97		ug/L		99	76 - 122	1	16
Bromoform			5.00	5.70		ug/L		114	56 - 139	1	21
Isopropylbenzene			5.00	4.89		ug/L		98	80 - 123	2	19
Bromobenzene			5.00	4.85		ug/L		97	80 - 120	2	24
1,1,2,2-Tetrachloroethane			5.00	5.72		ug/L		114	74 - 124	2	25
1,2,3-Trichloropropane			5.00	5.83		ug/L		117	76 - 124	1	26
N-Propylbenzene			5.00	4.72		ug/L		94	80 - 122	0	22
2-Chlorotoluene			5.00	4.74		ug/L		95	80 - 120	1	20
4-Chlorotoluene			5.00	4.76		ug/L		95	73 - 129	0	29
tert-Butylbenzene			5.00	4.70		ug/L		94	75 - 123	1	21
1,2,4-Trimethylbenzene			5.00	4.64		ug/L		93	80 - 120	2	16
sec-Butylbenzene			5.00	4.75		ug/L		95	78 - 122	1	15
4-Isopropyltoluene			5.00	4.64		ug/L		93	77 - 126	1	20
1,3-Dichlorobenzene			5.00	4.81		ug/L		96	77 - 127	0	35
1,4-Dichlorobenzene			5.00	4.92		ug/L		98	80 - 120	1	17
n-Butylbenzene			5.00	4.60		ug/L		92	57 - 133	1	14
1,2-Dichlorobenzene			5.00	4.97		ug/L		99	80 - 120	2	15
1,2-Dibromo-3-Chloropropane			5.00	5.47		ug/L		109	65 - 133	9	25
1,2,4-Trichlorobenzene			5.00	5.00		ug/L		100	61 - 148	1	27
Hexachlorobutadiene			5.00	4.90		ug/L		98	74 - 131	0	22
Naphthalene			5.00	5.43		ug/L		109	63 - 150	1	33
1,2,3-Trichlorobenzene			5.00	5.24		ug/L		105	65 - 150	1	33
1,3,5-Trimethylbenzene			5.00	4.76		ug/L		95	80 - 122	3	21

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 580-446667/7
Matrix: Water
Analysis Batch: 446667

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/20/23 00:04	1
Chloromethane	ND		0.50	0.14	ug/L			12/20/23 00:04	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/20/23 00:04	1
Bromomethane	ND		0.50	0.13	ug/L			12/20/23 00:04	1
Chloroethane	ND		0.50	0.096	ug/L			12/20/23 00:04	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/20/23 00:04	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/20/23 00:04	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/20/23 00:04	1
Acetone	ND		10	3.1	ug/L			12/20/23 00:04	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/20/23 00:04	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/20/23 00:04	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/20/23 00:04	1

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

Lab Sample ID: MB 580-446667/7
Matrix: Water
Analysis Batch: 446667

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/20/23 00:04	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			12/20/23 00:04	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/20/23 00:04	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/20/23 00:04	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/20/23 00:04	1
Chloroform	ND		0.20	0.030	ug/L			12/20/23 00:04	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/20/23 00:04	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/20/23 00:04	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/20/23 00:04	1
Benzene	ND		0.20	0.030	ug/L			12/20/23 00:04	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/20/23 00:04	1
Trichloroethene	ND		0.20	0.066	ug/L			12/20/23 00:04	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/20/23 00:04	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/20/23 00:04	1
Dibromomethane	ND		0.20	0.062	ug/L			12/20/23 00:04	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/20/23 00:04	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/20/23 00:04	1
Toluene	ND		0.20	0.050	ug/L			12/20/23 00:04	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/20/23 00:04	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/20/23 00:04	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/20/23 00:04	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/20/23 00:04	1
Dibromochloromethane	ND		0.20	0.055	ug/L			12/20/23 00:04	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/20/23 00:04	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/20/23 00:04	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/20/23 00:04	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/20/23 00:04	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/20/23 00:04	1
o-Xylene	ND		0.50	0.15	ug/L			12/20/23 00:04	1
Styrene	ND		1.0	0.19	ug/L			12/20/23 00:04	1
Bromoform	ND		0.50	0.16	ug/L			12/20/23 00:04	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/20/23 00:04	1
Bromobenzene	ND		0.20	0.038	ug/L			12/20/23 00:04	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/20/23 00:04	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/20/23 00:04	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/20/23 00:04	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/20/23 00:04	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/20/23 00:04	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/20/23 00:04	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/20/23 00:04	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/20/23 00:04	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/20/23 00:04	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/20/23 00:04	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/20/23 00:04	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/20/23 00:04	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/20/23 00:04	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/20/23 00:04	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/20/23 00:04	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/20/23 00:04	1

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

Lab Sample ID: MB 580-446667/7
Matrix: Water
Analysis Batch: 446667

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/20/23 00:04	1
Naphthalene	ND		1.0	0.22	ug/L			12/20/23 00:04	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/20/23 00:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/20/23 00:04*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*12/20/23 00:04*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*12/20/23 00:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*12/20/23 00:04*	*1*

Lab Sample ID: LCS 580-446667/4
Matrix: Water
Analysis Batch: 446667

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	5.00	3.57		ug/L		71	20 - 150
Chloromethane	5.00	4.65		ug/L		93	32 - 150
Vinyl chloride	5.00	4.60		ug/L		92	41 - 150
Bromomethane	5.00	5.55		ug/L		111	51 - 148
Chloroethane	5.00	5.38		ug/L		108	54 - 140
Carbon disulfide	5.00	4.00		ug/L		80	54 - 142
Trichlorofluoromethane	5.00	4.82		ug/L		96	60 - 132
1,1-Dichloroethene	5.00	4.48		ug/L		90	60 - 129
Acetone	25.0	29.3		ug/L		117	49 - 150
Methylene Chloride	5.00	4.98	J	ug/L		100	40 - 142
Methyl tert-butyl ether	5.00	5.11		ug/L		102	61 - 131
2-Butanone (MEK)	25.0	29.8		ug/L		119	37 - 150
trans-1,2-Dichloroethene	5.00	4.61		ug/L		92	69 - 121
1,1-Dichloroethane	5.00	4.78		ug/L		96	74 - 120
2,2-Dichloropropane	5.00	4.36		ug/L		87	55 - 140
cis-1,2-Dichloroethene	5.00	4.77		ug/L		95	72 - 120
Chlorobromomethane	5.00	4.63		ug/L		93	79 - 121
Chloroform	5.00	4.87		ug/L		97	75 - 120
1,1,1-Trichloroethane	5.00	4.67		ug/L		93	70 - 121
Carbon tetrachloride	5.00	4.48		ug/L		90	66 - 130
1,1-Dichloropropene	5.00	4.27		ug/L		85	72 - 125
Benzene	5.00	4.63		ug/L		93	80 - 120
1,2-Dichloroethane	5.00	4.69		ug/L		94	74 - 127
Trichloroethene	5.00	4.52		ug/L		90	72 - 120
1,2-Dichloropropane	5.00	4.77		ug/L		95	69 - 130
4-Methyl-2-pentanone (MIBK)	25.0	26.0		ug/L		104	63 - 137
Dibromomethane	5.00	5.07		ug/L		101	65 - 141
Dichlorobromomethane	5.00	4.93		ug/L		99	74 - 131
cis-1,3-Dichloropropene	5.00	4.40		ug/L		88	77 - 131
Toluene	5.00	4.31		ug/L		86	80 - 126
trans-1,3-Dichloropropene	5.00	4.84		ug/L		97	71 - 138
1,1,2-Trichloroethane	5.00	4.87		ug/L		97	73 - 127
Tetrachloroethene	5.00	3.98		ug/L		80	75 - 124

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

Lab Sample ID: LCS 580-446667/4
Matrix: Water
Analysis Batch: 446667

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1,3-Dichloropropane			5.00	4.81		ug/L		96	69 - 138		
Dibromochloromethane			5.00	4.78		ug/L		96	62 - 141		
Ethylene Dibromide			5.00	4.89		ug/L		98	61 - 143		
Chlorobenzene			5.00	4.44		ug/L		89	74 - 123		
1,1,1,2-Tetrachloroethane			5.00	4.71		ug/L		94	69 - 127		
Ethylbenzene			5.00	4.47		ug/L		89	80 - 124		
m-Xylene & p-Xylene			5.00	4.35		ug/L		87	75 - 124		
o-Xylene			5.00	4.35		ug/L		87	71 - 124		
Styrene			5.00	4.65		ug/L		93	74 - 127		
Bromoform			5.00	4.80		ug/L		96	48 - 127		
Isopropylbenzene			5.00	4.58		ug/L		92	71 - 123		
Bromobenzene			5.00	4.47		ug/L		89	74 - 130		
1,1,2,2-Tetrachloroethane			5.00	4.88		ug/L		98	67 - 136		
1,2,3-Trichloropropane			5.00	5.11		ug/L		102	67 - 135		
N-Propylbenzene			5.00	4.32		ug/L		86	72 - 126		
2-Chlorotoluene			5.00	4.41		ug/L		88	73 - 120		
4-Chlorotoluene			5.00	4.39		ug/L		88	75 - 124		
1,3,5-Trimethylbenzene			5.00	4.33		ug/L		87	75 - 123		
tert-Butylbenzene			5.00	4.41		ug/L		88	70 - 129		
1,2,4-Trimethylbenzene			5.00	4.26		ug/L		85	71 - 127		
sec-Butylbenzene			5.00	4.26		ug/L		85	75 - 126		
4-Isopropyltoluene			5.00	4.25		ug/L		85	78 - 125		
1,3-Dichlorobenzene			5.00	4.53		ug/L		91	72 - 125		
1,4-Dichlorobenzene			5.00	4.50		ug/L		90	71 - 129		
n-Butylbenzene			5.00	4.09		ug/L		82	69 - 127		
1,2-Dichlorobenzene			5.00	4.58		ug/L		92	72 - 129		
1,2-Dibromo-3-Chloropropane			5.00	5.08		ug/L		102	55 - 135		
1,2,4-Trichlorobenzene			5.00	4.47		ug/L		89	60 - 130		
Hexachlorobutadiene			5.00	4.57		ug/L		91	63 - 130		
Naphthalene			5.00	4.79		ug/L		96	54 - 137		
1,2,3-Trichlorobenzene			5.00	4.68		ug/L		94	60 - 136		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*

Lab Sample ID: LCSD 580-446667/5
Matrix: Water
Analysis Batch: 446667

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
Dichlorodifluoromethane			5.00	3.55		ug/L		71	20 - 150	1	30
Chloromethane			5.00	4.76		ug/L		95	32 - 150	2	33
Vinyl chloride			5.00	4.70		ug/L		94	41 - 150	2	32
Bromomethane			5.00	5.65		ug/L		113	51 - 148	2	35
Chloroethane			5.00	5.11		ug/L		102	54 - 140	5	33

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

Lab Sample ID: LCSD 580-446667/5
Matrix: Water
Analysis Batch: 446667

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
Carbon disulfide	5.00	4.03		ug/L		81	54 - 142	1	34
Trichlorofluoromethane	5.00	4.88		ug/L		98	60 - 132	1	32
1,1-Dichloroethene	5.00	4.42		ug/L		88	60 - 129	1	29
Acetone	25.0	30.6		ug/L		123	49 - 150	5	24
Methylene Chloride	5.00	4.90	J	ug/L		98	40 - 142	2	25
Methyl tert-butyl ether	5.00	5.15		ug/L		103	61 - 131	1	27
2-Butanone (MEK)	25.0	29.2		ug/L		117	37 - 150	2	35
trans-1,2-Dichloroethene	5.00	4.70		ug/L		94	69 - 121	2	27
1,1-Dichloroethane	5.00	4.65		ug/L		93	74 - 120	3	26
2,2-Dichloropropane	5.00	4.44		ug/L		89	55 - 140	2	31
cis-1,2-Dichloroethene	5.00	4.94		ug/L		99	72 - 120	4	22
Chlorobromomethane	5.00	4.81		ug/L		96	79 - 121	4	20
Chloroform	5.00	4.96		ug/L		99	75 - 120	2	21
1,1,1-Trichloroethane	5.00	4.77		ug/L		95	70 - 121	2	24
Carbon tetrachloride	5.00	4.54		ug/L		91	66 - 130	1	24
1,1-Dichloropropene	5.00	4.44		ug/L		89	72 - 125	4	23
Benzene	5.00	4.66		ug/L		93	80 - 120	0	22
1,2-Dichloroethane	5.00	4.70		ug/L		94	74 - 127	0	21
Trichloroethene	5.00	4.52		ug/L		90	72 - 120	0	22
1,2-Dichloropropane	5.00	4.82		ug/L		96	69 - 130	1	22
4-Methyl-2-pentanone (MIBK)	25.0	27.6		ug/L		110	63 - 137	6	26
Dibromomethane	5.00	5.12		ug/L		102	65 - 141	1	22
Dichlorobromomethane	5.00	5.00		ug/L		100	74 - 131	1	21
cis-1,3-Dichloropropene	5.00	4.53		ug/L		91	77 - 131	3	24
Toluene	5.00	4.34		ug/L		87	80 - 126	1	20
trans-1,3-Dichloropropene	5.00	4.81		ug/L		96	71 - 138	1	26
1,1,2-Trichloroethane	5.00	4.94		ug/L		99	73 - 127	1	22
Tetrachloroethene	5.00	4.18		ug/L		84	75 - 124	5	20
1,3-Dichloropropane	5.00	4.94		ug/L		99	69 - 138	3	19
Dibromochloromethane	5.00	4.96		ug/L		99	62 - 141	4	22
Ethylene Dibromide	5.00	5.04		ug/L		101	61 - 143	3	22
Chlorobenzene	5.00	4.43		ug/L		89	74 - 123	0	21
1,1,1,2-Tetrachloroethane	5.00	4.81		ug/L		96	69 - 127	2	22
Ethylbenzene	5.00	4.43		ug/L		89	80 - 124	1	22
m-Xylene & p-Xylene	5.00	4.30		ug/L		86	75 - 124	1	22
o-Xylene	5.00	4.37		ug/L		87	71 - 124	0	23
Styrene	5.00	4.58		ug/L		92	74 - 127	1	22
Bromoform	5.00	4.97		ug/L		99	48 - 127	3	23
Isopropylbenzene	5.00	4.58		ug/L		92	71 - 123	0	23
Bromobenzene	5.00	4.41		ug/L		88	74 - 130	1	23
1,1,2,2-Tetrachloroethane	5.00	5.24		ug/L		105	67 - 136	7	24
1,2,3-Trichloropropane	5.00	5.15		ug/L		103	67 - 135	1	25
N-Propylbenzene	5.00	4.36		ug/L		87	72 - 126	1	20
2-Chlorotoluene	5.00	4.57		ug/L		91	73 - 120	4	22
4-Chlorotoluene	5.00	4.56		ug/L		91	75 - 124	4	23
1,3,5-Trimethylbenzene	5.00	4.31		ug/L		86	75 - 123	1	23
tert-Butylbenzene	5.00	4.43		ug/L		89	70 - 129	0	24
1,2,4-Trimethylbenzene	5.00	4.16		ug/L		83	71 - 127	2	23
sec-Butylbenzene	5.00	4.37		ug/L		87	75 - 126	3	23

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

Lab Sample ID: LCSD 580-446667/5
Matrix: Water
Analysis Batch: 446667

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
4-Isopropyltoluene			5.00	4.31		ug/L		86	78 - 125	1	24
1,3-Dichlorobenzene			5.00	4.54		ug/L		91	72 - 125	0	22
1,4-Dichlorobenzene			5.00	4.67		ug/L		93	71 - 129	4	22
n-Butylbenzene			5.00	4.21		ug/L		84	69 - 127	3	24
1,2-Dichlorobenzene			5.00	4.71		ug/L		94	72 - 129	3	22
1,2-Dibromo-3-Chloropropane			5.00	5.24		ug/L		105	55 - 135	3	29
1,2,4-Trichlorobenzene			5.00	4.51		ug/L		90	60 - 130	1	26
Hexachlorobutadiene			5.00	4.42		ug/L		88	63 - 130	3	26
Naphthalene			5.00	4.84		ug/L		97	54 - 137	1	28
1,2,3-Trichlorobenzene			5.00	4.83		ug/L		97	60 - 136	3	28

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*

Lab Sample ID: MB 580-446722/7
Matrix: Water
Analysis Batch: 446722

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/20/23 14:06	1
Chloromethane	ND		0.50	0.14	ug/L			12/20/23 14:06	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/20/23 14:06	1
Bromomethane	ND		0.50	0.13	ug/L			12/20/23 14:06	1
Chloroethane	ND		0.50	0.096	ug/L			12/20/23 14:06	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/20/23 14:06	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/20/23 14:06	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/20/23 14:06	1
Acetone	ND		10	3.1	ug/L			12/20/23 14:06	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/20/23 14:06	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/20/23 14:06	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/20/23 14:06	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/20/23 14:06	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			12/20/23 14:06	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/20/23 14:06	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/20/23 14:06	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/20/23 14:06	1
Chloroform	ND		0.20	0.030	ug/L			12/20/23 14:06	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/20/23 14:06	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/20/23 14:06	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/20/23 14:06	1
Benzene	ND		0.20	0.030	ug/L			12/20/23 14:06	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/20/23 14:06	1
Trichloroethene	ND		0.20	0.066	ug/L			12/20/23 14:06	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/20/23 14:06	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/20/23 14:06	1

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

Lab Sample ID: MB 580-446722/7
Matrix: Water
Analysis Batch: 446722

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND		0.20	0.062	ug/L			12/20/23 14:06	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/20/23 14:06	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/20/23 14:06	1
Toluene	ND		0.20	0.050	ug/L			12/20/23 14:06	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/20/23 14:06	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/20/23 14:06	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/20/23 14:06	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/20/23 14:06	1
Dibromochloromethane	ND		0.20	0.055	ug/L			12/20/23 14:06	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/20/23 14:06	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/20/23 14:06	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/20/23 14:06	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/20/23 14:06	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/20/23 14:06	1
o-Xylene	ND		0.50	0.15	ug/L			12/20/23 14:06	1
Styrene	ND		1.0	0.19	ug/L			12/20/23 14:06	1
Bromoform	ND		0.50	0.16	ug/L			12/20/23 14:06	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/20/23 14:06	1
Bromobenzene	ND		0.20	0.038	ug/L			12/20/23 14:06	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/20/23 14:06	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/20/23 14:06	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/20/23 14:06	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/20/23 14:06	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/20/23 14:06	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/20/23 14:06	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/20/23 14:06	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/20/23 14:06	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/20/23 14:06	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/20/23 14:06	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/20/23 14:06	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/20/23 14:06	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/20/23 14:06	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/20/23 14:06	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/20/23 14:06	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/20/23 14:06	1
Hexachlorobutadiene	ND		0.50	0.067	ug/L			12/20/23 14:06	1
Naphthalene	ND		1.0	0.22	ug/L			12/20/23 14:06	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/20/23 14:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/20/23 14:06*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*12/20/23 14:06*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*12/20/23 14:06*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*12/20/23 14:06*	*1*

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

Lab Sample ID: LCS 580-446722/4
Matrix: Water
Analysis Batch: 446722

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	5.00	3.03		ug/L		61	20 - 150
Chloromethane	5.00	4.33		ug/L		87	32 - 150
Vinyl chloride	5.00	4.13		ug/L		83	41 - 150
Bromomethane	5.00	5.15		ug/L		103	51 - 148
Chloroethane	5.00	4.39		ug/L		88	54 - 140
Carbon disulfide	5.00	3.79		ug/L		76	54 - 142
Trichlorofluoromethane	5.00	4.39		ug/L		88	60 - 132
1,1-Dichloroethene	5.00	4.26		ug/L		85	60 - 129
Acetone	25.0	31.9		ug/L		128	49 - 150
Methylene Chloride	5.00	5.24		ug/L		105	40 - 142
Methyl tert-butyl ether	5.00	4.91		ug/L		98	61 - 131
2-Butanone (MEK)	25.0	30.1		ug/L		120	37 - 150
trans-1,2-Dichloroethene	5.00	4.18		ug/L		84	69 - 121
1,1-Dichloroethane	5.00	4.38		ug/L		88	74 - 120
2,2-Dichloropropane	5.00	4.78		ug/L		96	55 - 140
cis-1,2-Dichloroethene	5.00	4.60		ug/L		92	72 - 120
Chlorobromomethane	5.00	4.63		ug/L		93	79 - 121
Chloroform	5.00	4.80		ug/L		96	75 - 120
1,1,1-Trichloroethane	5.00	4.47		ug/L		89	70 - 121
Carbon tetrachloride	5.00	4.26		ug/L		85	66 - 130
1,1-Dichloropropene	5.00	4.11		ug/L		82	72 - 125
Benzene	5.00	4.43		ug/L		89	80 - 120
1,2-Dichloroethane	5.00	4.77		ug/L		95	74 - 127
Trichloroethene	5.00	4.35		ug/L		87	72 - 120
1,2-Dichloropropane	5.00	4.76		ug/L		95	69 - 130
4-Methyl-2-pentanone (MIBK)	25.0	26.8		ug/L		107	63 - 137
Dibromomethane	5.00	4.93		ug/L		99	65 - 141
Dichlorobromomethane	5.00	5.03		ug/L		101	74 - 131
cis-1,3-Dichloropropene	5.00	4.49		ug/L		90	77 - 131
Toluene	5.00	4.07		ug/L		81	80 - 126
trans-1,3-Dichloropropene	5.00	4.87		ug/L		97	71 - 138
1,1,2-Trichloroethane	5.00	4.90		ug/L		98	73 - 127
Tetrachloroethene	5.00	3.82		ug/L		76	75 - 124
1,3-Dichloropropane	5.00	4.94		ug/L		99	69 - 138
Dibromochloromethane	5.00	4.85		ug/L		97	62 - 141
Ethylene Dibromide	5.00	4.82		ug/L		96	61 - 143
Chlorobenzene	5.00	4.33		ug/L		87	74 - 123
1,1,1,2-Tetrachloroethane	5.00	4.63		ug/L		93	69 - 127
Ethylbenzene	5.00	4.27		ug/L		85	80 - 124
m-Xylene & p-Xylene	5.00	4.17		ug/L		83	75 - 124
o-Xylene	5.00	4.22		ug/L		84	71 - 124
Styrene	5.00	4.51		ug/L		90	74 - 127
Bromoform	5.00	4.72		ug/L		94	48 - 127
Isopropylbenzene	5.00	4.34		ug/L		87	71 - 123
Bromobenzene	5.00	4.20		ug/L		84	74 - 130
1,1,2,2-Tetrachloroethane	5.00	4.80		ug/L		96	67 - 136
1,2,3-Trichloropropane	5.00	4.92		ug/L		98	67 - 135
N-Propylbenzene	5.00	4.08		ug/L		82	72 - 126

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

Lab Sample ID: LCS 580-446722/4
Matrix: Water
Analysis Batch: 446722

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
2-Chlorotoluene			5.00	4.22		ug/L		84	73 - 120		
4-Chlorotoluene			5.00	4.32		ug/L		86	75 - 124		
1,3,5-Trimethylbenzene			5.00	4.06		ug/L		81	75 - 123		
tert-Butylbenzene			5.00	4.14		ug/L		83	70 - 129		
1,2,4-Trimethylbenzene			5.00	4.09		ug/L		82	71 - 127		
sec-Butylbenzene			5.00	4.08		ug/L		82	75 - 126		
4-Isopropyltoluene			5.00	4.01		ug/L		80	78 - 125		
1,3-Dichlorobenzene			5.00	4.32		ug/L		86	72 - 125		
1,4-Dichlorobenzene			5.00	4.37		ug/L		87	71 - 129		
n-Butylbenzene			5.00	4.03		ug/L		81	69 - 127		
1,2-Dichlorobenzene			5.00	4.46		ug/L		89	72 - 129		
1,2-Dibromo-3-Chloropropane			5.00	4.86		ug/L		97	55 - 135		
1,2,4-Trichlorobenzene			5.00	4.36		ug/L		87	60 - 130		
Hexachlorobutadiene			5.00	4.34		ug/L		87	63 - 130		
Naphthalene			5.00	4.48		ug/L		90	54 - 137		
1,2,3-Trichlorobenzene			5.00	4.35		ug/L		87	60 - 136		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*

Lab Sample ID: LCSD 580-446722/5
Matrix: Water
Analysis Batch: 446722

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
Dichlorodifluoromethane			5.00	3.12		ug/L		62	20 - 150	3	30
Chloromethane			5.00	4.50		ug/L		90	32 - 150	4	33
Vinyl chloride			5.00	4.24		ug/L		85	41 - 150	3	32
Bromomethane			5.00	5.51		ug/L		110	51 - 148	7	35
Chloroethane			5.00	4.65		ug/L		93	54 - 140	6	33
Carbon disulfide			5.00	3.87		ug/L		77	54 - 142	2	34
Trichlorofluoromethane			5.00	4.65		ug/L		93	60 - 132	6	32
1,1-Dichloroethene			5.00	4.34		ug/L		87	60 - 129	2	29
Acetone			25.0	31.5		ug/L		126	49 - 150	1	24
Methylene Chloride			5.00	5.21		ug/L		104	40 - 142	1	25
Methyl tert-butyl ether			5.00	5.19		ug/L		104	61 - 131	5	27
2-Butanone (MEK)			25.0	31.4		ug/L		126	37 - 150	4	35
trans-1,2-Dichloroethene			5.00	4.42		ug/L		88	69 - 121	6	27
1,1-Dichloroethane			5.00	4.67		ug/L		93	74 - 120	6	26
2,2-Dichloropropane			5.00	4.78		ug/L		96	55 - 140	0	31
cis-1,2-Dichloroethene			5.00	4.91		ug/L		98	72 - 120	7	22
Chlorobromomethane			5.00	4.76		ug/L		95	79 - 121	3	20
Chloroform			5.00	4.90		ug/L		98	75 - 120	2	21
1,1,1-Trichloroethane			5.00	4.59		ug/L		92	70 - 121	3	24
Carbon tetrachloride			5.00	4.26		ug/L		85	66 - 130	0	24

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

Lab Sample ID: LCSD 580-446722/5
Matrix: Water
Analysis Batch: 446722

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-Dichloropropene			5.00	4.25		ug/L		85	72 - 125	3	23
Benzene			5.00	4.57		ug/L		91	80 - 120	3	22
1,2-Dichloroethane			5.00	4.91		ug/L		98	74 - 127	3	21
Trichloroethene			5.00	4.50		ug/L		90	72 - 120	4	22
1,2-Dichloropropane			5.00	4.91		ug/L		98	69 - 130	3	22
4-Methyl-2-pentanone (MIBK)			25.0	26.8		ug/L		107	63 - 137	0	26
Dibromomethane			5.00	5.11		ug/L		102	65 - 141	4	22
Dichlorobromomethane			5.00	5.16		ug/L		103	74 - 131	2	21
cis-1,3-Dichloropropene			5.00	4.55		ug/L		91	77 - 131	1	24
Toluene			5.00	4.30		ug/L		86	80 - 126	5	20
trans-1,3-Dichloropropene			5.00	4.93		ug/L		99	71 - 138	1	26
1,1,2-Trichloroethane			5.00	4.99		ug/L		100	73 - 127	2	22
Tetrachloroethene			5.00	3.99		ug/L		80	75 - 124	4	20
1,3-Dichloropropane			5.00	4.93		ug/L		99	69 - 138	0	19
Dibromochloromethane			5.00	4.95		ug/L		99	62 - 141	2	22
Ethylene Dibromide			5.00	5.00		ug/L		100	61 - 143	4	22
Chlorobenzene			5.00	4.49		ug/L		90	74 - 123	4	21
1,1,1,2-Tetrachloroethane			5.00	4.71		ug/L		94	69 - 127	2	22
Ethylbenzene			5.00	4.42		ug/L		88	80 - 124	3	22
m-Xylene & p-Xylene			5.00	4.34		ug/L		87	75 - 124	4	22
o-Xylene			5.00	4.34		ug/L		87	71 - 124	3	23
Styrene			5.00	4.64		ug/L		93	74 - 127	3	22
Bromoform			5.00	4.99		ug/L		100	48 - 127	6	23
Isopropylbenzene			5.00	4.42		ug/L		88	71 - 123	2	23
Bromobenzene			5.00	4.45		ug/L		89	74 - 130	6	23
1,1,2,2-Tetrachloroethane			5.00	5.10		ug/L		102	67 - 136	6	24
1,2,3-Trichloropropane			5.00	5.07		ug/L		101	67 - 135	3	25
N-Propylbenzene			5.00	4.27		ug/L		85	72 - 126	4	20
2-Chlorotoluene			5.00	4.33		ug/L		87	73 - 120	3	22
4-Chlorotoluene			5.00	4.34		ug/L		87	75 - 124	0	23
1,3,5-Trimethylbenzene			5.00	4.24		ug/L		85	75 - 123	4	23
tert-Butylbenzene			5.00	4.26		ug/L		85	70 - 129	3	24
1,2,4-Trimethylbenzene			5.00	4.15		ug/L		83	71 - 127	2	23
sec-Butylbenzene			5.00	4.22		ug/L		84	75 - 126	4	23
4-Isopropyltoluene			5.00	4.20		ug/L		84	78 - 125	5	24
1,3-Dichlorobenzene			5.00	4.44		ug/L		89	72 - 125	3	22
1,4-Dichlorobenzene			5.00	4.48		ug/L		90	71 - 129	2	22
n-Butylbenzene			5.00	4.09		ug/L		82	69 - 127	1	24
1,2-Dichlorobenzene			5.00	4.56		ug/L		91	72 - 129	2	22
1,2-Dibromo-3-Chloropropane			5.00	4.79		ug/L		96	55 - 135	2	29
1,2,4-Trichlorobenzene			5.00	4.29		ug/L		86	60 - 130	2	26
Hexachlorobutadiene			5.00	4.35		ug/L		87	63 - 130	0	26
Naphthalene			5.00	4.53		ug/L		91	54 - 137	1	28
1,2,3-Trichlorobenzene			5.00	4.35		ug/L		87	60 - 136	0	28

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*

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

Lab Sample ID: LCSD 580-446722/5
Matrix: Water
Analysis Batch: 446722

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

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 120*

Lab Sample ID: 580-134914-14 MS
Matrix: Water
Analysis Batch: 446722

Client Sample ID: PA-31-121223
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	ND		4.30	4.01		ug/L		93	20 - 150
Chloromethane	ND		4.30	5.21		ug/L		121	32 - 150
Vinyl chloride	ND		4.30	5.40		ug/L		126	41 - 150
Bromomethane	ND		4.30	5.56		ug/L		129	51 - 148
Chloroethane	ND		4.30	5.25		ug/L		122	54 - 140
Carbon disulfide	ND		4.30	4.73		ug/L		110	54 - 142
Trichlorofluoromethane	ND	F1	4.30	6.26	F1	ug/L		146	60 - 132
1,1-Dichloroethene	0.80		4.30	6.35		ug/L		129	60 - 129
Acetone	ND		21.5	28.3		ug/L		132	49 - 150
Methylene Chloride	ND		4.30	5.33		ug/L		124	40 - 142
Methyl tert-butyl ether	ND		4.30	5.56		ug/L		129	61 - 131
2-Butanone (MEK)	ND		21.5	29.7		ug/L		138	37 - 150
trans-1,2-Dichloroethene	ND	F1	4.30	5.33	F1	ug/L		124	69 - 121
1,1-Dichloroethane	0.21	F1	4.30	5.58	F1	ug/L		125	74 - 120
2,2-Dichloropropane	ND		4.30	5.81		ug/L		135	55 - 140
cis-1,2-Dichloroethene	ND	F1	4.30	5.70	F1	ug/L		132	72 - 120
Chlorobromomethane	ND	F1	4.30	5.33	F1	ug/L		124	79 - 121
Chloroform	0.052	J F1	4.30	5.74	F1	ug/L		132	75 - 120
1,1,1-Trichloroethane	0.22	F1	4.30	5.94	F1	ug/L		133	70 - 121
Carbon tetrachloride	ND		4.30	5.54		ug/L		129	66 - 130
1,1-Dichloropropene	ND		4.30	5.17		ug/L		120	72 - 125
Benzene	ND	F1	4.30	5.29	F1	ug/L		123	80 - 120
1,2-Dichloroethane	ND		4.30	5.20		ug/L		121	74 - 127
Trichloroethene	0.090	J F1	4.30	5.33	F1	ug/L		122	72 - 120
1,2-Dichloropropane	ND		4.30	5.40		ug/L		126	69 - 130
4-Methyl-2-pentanone (MIBK)	ND		21.5	27.0		ug/L		126	63 - 137
Dibromomethane	ND		4.30	5.66		ug/L		132	65 - 141
Dichlorobromomethane	ND		4.30	5.65		ug/L		131	74 - 131
cis-1,3-Dichloropropene	ND		4.30	4.91		ug/L		114	77 - 131
Toluene	ND		4.30	4.86		ug/L		113	80 - 126
trans-1,3-Dichloropropene	ND		4.30	5.12		ug/L		119	71 - 138
1,1,2-Trichloroethane	ND		4.30	5.06		ug/L		118	73 - 127
Tetrachloroethene	0.21	J	4.30	5.05		ug/L		112	75 - 124
1,3-Dichloropropane	ND		4.30	5.09		ug/L		118	69 - 138
Dibromochloromethane	ND		4.30	5.10		ug/L		119	62 - 141
Ethylene Dibromide	ND		4.30	5.14		ug/L		120	61 - 143
Chlorobenzene	ND		4.30	5.03		ug/L		117	74 - 123
1,1,1,2-Tetrachloroethane	ND		4.30	5.13		ug/L		119	69 - 127
Ethylbenzene	ND		4.30	5.00		ug/L		116	80 - 124
m-Xylene & p-Xylene	ND		4.30	4.88		ug/L		114	75 - 124

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

Lab Sample ID: 580-134914-14 MS
Matrix: Water
Analysis Batch: 446722

Client Sample ID: PA-31-121223
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
o-Xylene	ND		4.30	4.88		ug/L		113	71 - 124
Styrene	ND		4.30	5.03		ug/L		117	74 - 127
Bromoform	ND		4.30	5.06		ug/L		118	48 - 127
Isopropylbenzene	ND		4.30	5.15		ug/L		120	71 - 123
Bromobenzene	ND		4.30	4.90		ug/L		114	74 - 130
1,1,2,2-Tetrachloroethane	ND		4.30	5.29		ug/L		123	67 - 136
1,2,3-Trichloropropane	ND		4.30	5.27		ug/L		123	67 - 135
N-Propylbenzene	ND		4.30	5.08		ug/L		118	72 - 126
2-Chlorotoluene	ND		4.30	5.04		ug/L		117	73 - 120
4-Chlorotoluene	ND		4.30	5.08		ug/L		118	75 - 124
1,3,5-Trimethylbenzene	ND		4.30	5.05		ug/L		117	75 - 123
tert-Butylbenzene	ND		4.30	5.10		ug/L		119	70 - 129
1,2,4-Trimethylbenzene	ND		4.30	4.83		ug/L		112	71 - 127
sec-Butylbenzene	ND		4.30	5.08		ug/L		118	75 - 126
4-Isopropyltoluene	ND		4.30	4.92		ug/L		114	78 - 125
1,3-Dichlorobenzene	ND		4.30	4.92		ug/L		114	72 - 125
1,4-Dichlorobenzene	ND		4.30	5.08		ug/L		118	71 - 129
n-Butylbenzene	ND		4.30	4.99		ug/L		116	69 - 127
1,2-Dichlorobenzene	ND		4.30	5.10		ug/L		119	72 - 129
1,2-Dibromo-3-Chloropropane	ND		4.30	5.09		ug/L		118	55 - 135
1,2,4-Trichlorobenzene	ND		4.30	4.71		ug/L		110	60 - 130
Hexachlorobutadiene	ND		4.30	4.93		ug/L		115	63 - 130
Naphthalene	ND		4.30	4.80		ug/L		112	54 - 137
1,2,3-Trichlorobenzene	ND		4.30	4.66		ug/L		108	60 - 136

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*

Lab Sample ID: 580-134914-14 MSD
Matrix: Water
Analysis Batch: 446722

Client Sample ID: PA-31-121223
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dichlorodifluoromethane	ND		4.30	3.66		ug/L		85	20 - 150	9	30
Chloromethane	ND		4.30	5.01		ug/L		116	32 - 150	4	33
Vinyl chloride	ND		4.30	5.11		ug/L		119	41 - 150	6	32
Bromomethane	ND		4.30	5.32		ug/L		124	51 - 148	5	35
Chloroethane	ND		4.30	5.53		ug/L		129	54 - 140	5	33
Carbon disulfide	ND		4.30	4.57		ug/L		106	54 - 142	3	34
Trichlorofluoromethane	ND	F1	4.30	5.43		ug/L		126	60 - 132	14	32
1,1-Dichloroethene	0.80		4.30	5.73		ug/L		115	60 - 129	10	29
Acetone	ND		21.5	27.8		ug/L		129	49 - 150	2	24
Methylene Chloride	ND		4.30	5.06		ug/L		118	40 - 142	5	25
Methyl tert-butyl ether	ND		4.30	5.28		ug/L		123	61 - 131	5	27
2-Butanone (MEK)	ND		21.5	27.8		ug/L		129	37 - 150	7	35

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

Lab Sample ID: 580-134914-14 MSD
Matrix: Water
Analysis Batch: 446722

Client Sample ID: PA-31-121223
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
trans-1,2-Dichloroethene	ND	F1	4.30	5.05		ug/L		117	69 - 121	5	27
1,1-Dichloroethane	0.21	F1	4.30	5.41	F1	ug/L		121	74 - 120	3	26
2,2-Dichloropropane	ND		4.30	5.28		ug/L		123	55 - 140	10	31
cis-1,2-Dichloroethene	ND	F1	4.30	5.27	F1	ug/L		123	72 - 120	8	22
Chlorobromomethane	ND	F1	4.30	5.24	F1	ug/L		122	79 - 121	2	20
Chloroform	0.052	J F1	4.30	5.44	F1	ug/L		125	75 - 120	5	21
1,1,1-Trichloroethane	0.22	F1	4.30	5.59	F1	ug/L		125	70 - 121	6	24
Carbon tetrachloride	ND		4.30	5.04		ug/L		117	66 - 130	9	24
1,1-Dichloropropene	ND		4.30	5.00		ug/L		116	72 - 125	3	23
Benzene	ND	F1	4.30	5.05		ug/L		117	80 - 120	5	22
1,2-Dichloroethane	ND		4.30	4.92		ug/L		114	74 - 127	6	21
Trichloroethene	0.090	J F1	4.30	5.19		ug/L		119	72 - 120	3	22
1,2-Dichloropropane	ND		4.30	5.35		ug/L		124	69 - 130	1	22
4-Methyl-2-pentanone (MIBK)	ND		21.5	25.8		ug/L		120	63 - 137	5	26
Dibromomethane	ND		4.30	5.33		ug/L		124	65 - 141	6	22
Dichlorobromomethane	ND		4.30	5.32		ug/L		124	74 - 131	6	21
cis-1,3-Dichloropropene	ND		4.30	4.60		ug/L		107	77 - 131	7	24
Toluene	ND		4.30	4.59		ug/L		107	80 - 126	6	20
trans-1,3-Dichloropropene	ND		4.30	5.04		ug/L		117	71 - 138	2	26
1,1,2-Trichloroethane	ND		4.30	4.92		ug/L		114	73 - 127	3	22
Tetrachloroethene	0.21	J	4.30	4.63		ug/L		103	75 - 124	9	20
1,3-Dichloropropane	ND		4.30	4.89		ug/L		114	69 - 138	4	19
Dibromochloromethane	ND		4.30	4.81		ug/L		112	62 - 141	6	22
Ethylene Dibromide	ND		4.30	4.91		ug/L		114	61 - 143	5	22
Chlorobenzene	ND		4.30	4.68		ug/L		109	74 - 123	7	21
1,1,1,2-Tetrachloroethane	ND		4.30	4.88		ug/L		114	69 - 127	5	22
Ethylbenzene	ND		4.30	4.78		ug/L		111	80 - 124	4	22
m-Xylene & p-Xylene	ND		4.30	4.63		ug/L		108	75 - 124	5	22
o-Xylene	ND		4.30	4.59		ug/L		107	71 - 124	6	23
Styrene	ND		4.30	4.80		ug/L		112	74 - 127	5	22
Bromoform	ND		4.30	4.95		ug/L		115	48 - 127	2	23
Isopropylbenzene	ND		4.30	4.89		ug/L		114	71 - 123	5	23
Bromobenzene	ND		4.30	4.48		ug/L		104	74 - 130	9	23
1,1,2,2-Tetrachloroethane	ND		4.30	4.91		ug/L		114	67 - 136	8	24
1,2,3-Trichloropropane	ND		4.30	4.56		ug/L		106	67 - 135	14	25
N-Propylbenzene	ND		4.30	4.59		ug/L		107	72 - 126	10	20
2-Chlorotoluene	ND		4.30	4.44		ug/L		103	73 - 120	13	22
4-Chlorotoluene	ND		4.30	4.48		ug/L		104	75 - 124	12	23
1,3,5-Trimethylbenzene	ND		4.30	4.48		ug/L		104	75 - 123	12	23
tert-Butylbenzene	ND		4.30	4.65		ug/L		108	70 - 129	9	24
1,2,4-Trimethylbenzene	ND		4.30	4.37		ug/L		102	71 - 127	10	23
sec-Butylbenzene	ND		4.30	4.63		ug/L		108	75 - 126	9	23
4-Isopropyltoluene	ND		4.30	4.45		ug/L		104	78 - 125	10	24
1,3-Dichlorobenzene	ND		4.30	4.45		ug/L		104	72 - 125	10	22
1,4-Dichlorobenzene	ND		4.30	4.55		ug/L		106	71 - 129	11	22
n-Butylbenzene	ND		4.30	4.41		ug/L		103	69 - 127	12	24
1,2-Dichlorobenzene	ND		4.30	4.64		ug/L		108	72 - 129	10	22
1,2-Dibromo-3-Chloropropane	ND		4.30	4.53		ug/L		105	55 - 135	12	29
1,2,4-Trichlorobenzene	ND		4.30	4.33		ug/L		101	60 - 130	9	26

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

Lab Sample ID: 580-134914-14 MSD
Matrix: Water
Analysis Batch: 446722

Client Sample ID: PA-31-121223
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexachlorobutadiene	ND		4.30	4.72		ug/L		110	63 - 130	4	26
Naphthalene	ND		4.30	4.50		ug/L		105	54 - 137	6	28
1,2,3-Trichlorobenzene	ND		4.30	4.33		ug/L		101	60 - 136	7	28

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*

Lab Sample ID: MB 580-446849/7
Matrix: Water
Analysis Batch: 446849

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.40	0.13	ug/L			12/21/23 14:08	1
Chloromethane	ND		0.50	0.14	ug/L			12/21/23 14:08	1
Vinyl chloride	ND		0.10	0.040	ug/L			12/21/23 14:08	1
Bromomethane	ND		0.50	0.13	ug/L			12/21/23 14:08	1
Chloroethane	ND		0.50	0.096	ug/L			12/21/23 14:08	1
Carbon disulfide	ND		0.30	0.083	ug/L			12/21/23 14:08	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			12/21/23 14:08	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			12/21/23 14:08	1
Acetone	ND		10	3.1	ug/L			12/21/23 14:08	1
Methylene Chloride	ND		5.0	1.2	ug/L			12/21/23 14:08	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			12/21/23 14:08	1
2-Butanone (MEK)	ND		10	2.5	ug/L			12/21/23 14:08	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			12/21/23 14:08	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			12/21/23 14:08	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			12/21/23 14:08	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			12/21/23 14:08	1
Chlorobromomethane	ND		0.20	0.050	ug/L			12/21/23 14:08	1
Chloroform	ND		0.20	0.030	ug/L			12/21/23 14:08	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			12/21/23 14:08	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			12/21/23 14:08	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			12/21/23 14:08	1
Benzene	ND		0.20	0.030	ug/L			12/21/23 14:08	1
1,2-Dichloroethane	ND		0.20	0.043	ug/L			12/21/23 14:08	1
Trichloroethene	ND		0.20	0.066	ug/L			12/21/23 14:08	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			12/21/23 14:08	1
4-Methyl-2-pentanone (MIBK)	ND		10	1.7	ug/L			12/21/23 14:08	1
Dibromomethane	ND		0.20	0.062	ug/L			12/21/23 14:08	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			12/21/23 14:08	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			12/21/23 14:08	1
Toluene	ND		0.20	0.050	ug/L			12/21/23 14:08	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			12/21/23 14:08	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			12/21/23 14:08	1
Tetrachloroethene	ND		0.24	0.084	ug/L			12/21/23 14:08	1

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

Lab Sample ID: MB 580-446849/7
Matrix: Water
Analysis Batch: 446849

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichloropropane	ND		0.20	0.025	ug/L			12/21/23 14:08	1
Dibromochloromethane	ND		0.20	0.055	ug/L			12/21/23 14:08	1
Ethylene Dibromide	ND		0.10	0.025	ug/L			12/21/23 14:08	1
Chlorobenzene	ND		0.20	0.060	ug/L			12/21/23 14:08	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.038	ug/L			12/21/23 14:08	1
Ethylbenzene	ND		0.20	0.030	ug/L			12/21/23 14:08	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			12/21/23 14:08	1
o-Xylene	ND		0.50	0.15	ug/L			12/21/23 14:08	1
Styrene	ND		1.0	0.19	ug/L			12/21/23 14:08	1
Bromoform	ND		0.50	0.16	ug/L			12/21/23 14:08	1
Isopropylbenzene	ND		1.0	0.19	ug/L			12/21/23 14:08	1
Bromobenzene	ND		0.20	0.038	ug/L			12/21/23 14:08	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			12/21/23 14:08	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			12/21/23 14:08	1
N-Propylbenzene	ND		0.30	0.091	ug/L			12/21/23 14:08	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			12/21/23 14:08	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			12/21/23 14:08	1
1,3,5-Trimethylbenzene	ND		0.50	0.15	ug/L			12/21/23 14:08	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			12/21/23 14:08	1
1,2,4-Trimethylbenzene	ND		0.50	0.20	ug/L			12/21/23 14:08	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			12/21/23 14:08	1
4-Isopropyltoluene	ND		0.50	0.15	ug/L			12/21/23 14:08	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			12/21/23 14:08	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			12/21/23 14:08	1
n-Butylbenzene	ND		1.0	0.23	ug/L			12/21/23 14:08	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			12/21/23 14:08	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.17	ug/L			12/21/23 14:08	1
1,2,4-Trichlorobenzene	ND		0.50	0.17	ug/L			12/21/23 14:08	1
Hexachlorobutadiene	0.0965	J	0.50	0.067	ug/L			12/21/23 14:08	1
Naphthalene	ND		1.0	0.22	ug/L			12/21/23 14:08	1
1,2,3-Trichlorobenzene	ND		0.50	0.15	ug/L			12/21/23 14:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*80 - 120*		*12/21/23 14:08*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*12/21/23 14:08*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*12/21/23 14:08*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*12/21/23 14:08*	*1*

Lab Sample ID: LCS 580-446849/4
Matrix: Water
Analysis Batch: 446849

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	5.00	3.37		ug/L		67	20 - 150
Chloromethane	5.00	4.66		ug/L		93	32 - 150
Vinyl chloride	5.00	4.74		ug/L		95	41 - 150
Bromomethane	5.00	5.51		ug/L		110	51 - 148
Chloroethane	5.00	5.39		ug/L		108	54 - 140

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

Lab Sample ID: LCS 580-446849/4
Matrix: Water
Analysis Batch: 446849

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon disulfide	5.00	4.39		ug/L		88	54 - 142
Trichlorofluoromethane	5.00	5.25		ug/L		105	60 - 132
1,1-Dichloroethene	5.00	4.80		ug/L		96	60 - 129
Acetone	25.0	33.0		ug/L		132	49 - 150
Methylene Chloride	5.00	5.49		ug/L		110	40 - 142
Methyl tert-butyl ether	5.00	5.62		ug/L		112	61 - 131
2-Butanone (MEK)	25.0	31.3		ug/L		125	37 - 150
trans-1,2-Dichloroethene	5.00	5.03		ug/L		101	69 - 121
1,1-Dichloroethane	5.00	5.10		ug/L		102	74 - 120
2,2-Dichloropropane	5.00	5.47		ug/L		109	55 - 140
cis-1,2-Dichloroethene	5.00	5.36		ug/L		107	72 - 120
Chlorobromomethane	5.00	5.35		ug/L		107	79 - 121
Chloroform	5.00	5.40		ug/L		108	75 - 120
1,1,1-Trichloroethane	5.00	5.17		ug/L		103	70 - 121
Carbon tetrachloride	5.00	5.04		ug/L		101	66 - 130
1,1-Dichloropropene	5.00	4.88		ug/L		98	72 - 125
Benzene	5.00	5.10		ug/L		102	80 - 120
1,2-Dichloroethane	5.00	5.07		ug/L		101	74 - 127
Trichloroethene	5.00	5.09		ug/L		102	72 - 120
1,2-Dichloropropane	5.00	5.19		ug/L		104	69 - 130
4-Methyl-2-pentanone (MIBK)	25.0	27.2		ug/L		109	63 - 137
Dibromomethane	5.00	5.53		ug/L		111	65 - 141
Dichlorobromomethane	5.00	5.35		ug/L		107	74 - 131
cis-1,3-Dichloropropene	5.00	4.70		ug/L		94	77 - 131
Toluene	5.00	4.47		ug/L		89	80 - 126
trans-1,3-Dichloropropene	5.00	5.07		ug/L		101	71 - 138
1,1,2-Trichloroethane	5.00	4.93		ug/L		99	73 - 127
Tetrachloroethene	5.00	4.36		ug/L		87	75 - 124
1,3-Dichloropropane	5.00	4.94		ug/L		99	69 - 138
Dibromochloromethane	5.00	4.96		ug/L		99	62 - 141
Ethylene Dibromide	5.00	5.02		ug/L		100	61 - 143
Chlorobenzene	5.00	4.73		ug/L		95	74 - 123
1,1,1,2-Tetrachloroethane	5.00	5.10		ug/L		102	69 - 127
Ethylbenzene	5.00	4.70		ug/L		94	80 - 124
m-Xylene & p-Xylene	5.00	4.55		ug/L		91	75 - 124
o-Xylene	5.00	4.53		ug/L		91	71 - 124
Styrene	5.00	4.85		ug/L		97	74 - 127
Bromoform	5.00	5.18		ug/L		104	48 - 127
Isopropylbenzene	5.00	4.73		ug/L		95	71 - 123
Bromobenzene	5.00	4.66		ug/L		93	74 - 130
1,1,2,2-Tetrachloroethane	5.00	5.32		ug/L		106	67 - 136
1,2,3-Trichloropropane	5.00	5.02		ug/L		100	67 - 135
N-Propylbenzene	5.00	4.53		ug/L		91	72 - 126
2-Chlorotoluene	5.00	4.59		ug/L		92	73 - 120
4-Chlorotoluene	5.00	4.64		ug/L		93	75 - 124
1,3,5-Trimethylbenzene	5.00	4.47		ug/L		89	75 - 123
tert-Butylbenzene	5.00	4.51		ug/L		90	70 - 129
1,2,4-Trimethylbenzene	5.00	4.45		ug/L		89	71 - 127
sec-Butylbenzene	5.00	4.48		ug/L		90	75 - 126

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

Lab Sample ID: LCS 580-446849/4
Matrix: Water
Analysis Batch: 446849

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4-Isopropyltoluene	5.00	4.51		ug/L		90	78 - 125
1,3-Dichlorobenzene	5.00	4.60		ug/L		92	72 - 125
1,4-Dichlorobenzene	5.00	4.76		ug/L		95	71 - 129
n-Butylbenzene	5.00	4.44		ug/L		89	69 - 127
1,2-Dichlorobenzene	5.00	4.78		ug/L		96	72 - 129
1,2-Dibromo-3-Chloropropane	5.00	5.14		ug/L		103	55 - 135
1,2,4-Trichlorobenzene	5.00	4.57		ug/L		91	60 - 130
Hexachlorobutadiene	5.00	4.69		ug/L		94	63 - 130
Naphthalene	5.00	4.80		ug/L		96	54 - 137
1,2,3-Trichlorobenzene	5.00	4.68		ug/L		94	60 - 136

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*

Lab Sample ID: LCSD 580-446849/5
Matrix: Water
Analysis Batch: 446849

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
Dichlorodifluoromethane	5.00	3.38		ug/L		68	20 - 150	0	30
Chloromethane	5.00	4.56		ug/L		91	32 - 150	2	33
Vinyl chloride	5.00	4.80		ug/L		96	41 - 150	1	32
Bromomethane	5.00	5.66		ug/L		113	51 - 148	3	35
Chloroethane	5.00	5.13		ug/L		103	54 - 140	5	33
Carbon disulfide	5.00	4.32		ug/L		86	54 - 142	2	34
Trichlorofluoromethane	5.00	5.26		ug/L		105	60 - 132	0	32
1,1-Dichloroethene	5.00	4.94		ug/L		99	60 - 129	3	29
Acetone	25.0	29.5		ug/L		118	49 - 150	11	24
Methylene Chloride	5.00	5.45		ug/L		109	40 - 142	1	25
Methyl tert-butyl ether	5.00	5.66		ug/L		113	61 - 131	1	27
2-Butanone (MEK)	25.0	30.1		ug/L		120	37 - 150	4	35
trans-1,2-Dichloroethene	5.00	4.96		ug/L		99	69 - 121	1	27
1,1-Dichloroethane	5.00	5.16		ug/L		103	74 - 120	1	26
2,2-Dichloropropane	5.00	5.18		ug/L		104	55 - 140	6	31
cis-1,2-Dichloroethene	5.00	5.35		ug/L		107	72 - 120	0	22
Chlorobromomethane	5.00	5.30		ug/L		106	79 - 121	1	20
Chloroform	5.00	5.48		ug/L		110	75 - 120	2	21
1,1,1-Trichloroethane	5.00	5.22		ug/L		104	70 - 121	1	24
Carbon tetrachloride	5.00	4.88		ug/L		98	66 - 130	3	24
1,1-Dichloropropene	5.00	4.77		ug/L		95	72 - 125	2	23
Benzene	5.00	5.20		ug/L		104	80 - 120	2	22
1,2-Dichloroethane	5.00	5.28		ug/L		106	74 - 127	4	21
Trichloroethene	5.00	5.02		ug/L		100	72 - 120	1	22
1,2-Dichloropropane	5.00	5.28		ug/L		106	69 - 130	2	22
4-Methyl-2-pentanone (MIBK)	25.0	27.6		ug/L		110	63 - 137	1	26

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

Lab Sample ID: LCSD 580-446849/5
Matrix: Water
Analysis Batch: 446849

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
Dibromomethane			5.00	5.48		ug/L		110	65 - 141	1	22
Dichlorobromomethane			5.00	5.46		ug/L		109	74 - 131	2	21
cis-1,3-Dichloropropene			5.00	4.70		ug/L		94	77 - 131	0	24
Toluene			5.00	4.55		ug/L		91	80 - 126	2	20
trans-1,3-Dichloropropene			5.00	5.16		ug/L		103	71 - 138	2	26
1,1,2-Trichloroethane			5.00	5.15		ug/L		103	73 - 127	4	22
Tetrachloroethene			5.00	4.29		ug/L		86	75 - 124	2	20
1,3-Dichloropropane			5.00	4.99		ug/L		100	69 - 138	1	19
Dibromochloromethane			5.00	5.08		ug/L		102	62 - 141	2	22
Ethylene Dibromide			5.00	5.21		ug/L		104	61 - 143	4	22
Chlorobenzene			5.00	4.73		ug/L		95	74 - 123	0	21
1,1,1,2-Tetrachloroethane			5.00	5.04		ug/L		101	69 - 127	1	22
Ethylbenzene			5.00	4.69		ug/L		94	80 - 124	0	22
m-Xylene & p-Xylene			5.00	4.45		ug/L		89	75 - 124	2	22
o-Xylene			5.00	4.52		ug/L		90	71 - 124	0	23
Styrene			5.00	4.82		ug/L		96	74 - 127	1	22
Bromoform			5.00	5.37		ug/L		107	48 - 127	4	23
Isopropylbenzene			5.00	4.83		ug/L		97	71 - 123	2	23
Bromobenzene			5.00	4.59		ug/L		92	74 - 130	2	23
1,1,2,2-Tetrachloroethane			5.00	5.44		ug/L		109	67 - 136	2	24
1,2,3-Trichloropropane			5.00	5.24		ug/L		105	67 - 135	4	25
N-Propylbenzene			5.00	4.45		ug/L		89	72 - 126	2	20
2-Chlorotoluene			5.00	4.57		ug/L		91	73 - 120	0	22
4-Chlorotoluene			5.00	4.61		ug/L		92	75 - 124	1	23
1,3,5-Trimethylbenzene			5.00	4.50		ug/L		90	75 - 123	1	23
tert-Butylbenzene			5.00	4.50		ug/L		90	70 - 129	0	24
1,2,4-Trimethylbenzene			5.00	4.45		ug/L		89	71 - 127	0	23
sec-Butylbenzene			5.00	4.48		ug/L		90	75 - 126	0	23
4-Isopropyltoluene			5.00	4.42		ug/L		88	78 - 125	2	24
1,3-Dichlorobenzene			5.00	4.60		ug/L		92	72 - 125	0	22
1,4-Dichlorobenzene			5.00	4.75		ug/L		95	71 - 129	0	22
n-Butylbenzene			5.00	4.44		ug/L		89	69 - 127	0	24
1,2-Dichlorobenzene			5.00	4.81		ug/L		96	72 - 129	0	22
1,2-Dibromo-3-Chloropropane			5.00	5.16		ug/L		103	55 - 135	1	29
1,2,4-Trichlorobenzene			5.00	4.64		ug/L		93	60 - 130	2	26
Hexachlorobutadiene			5.00	4.49		ug/L		90	63 - 130	4	26
Naphthalene			5.00	4.82		ug/L		96	54 - 137	0	28
1,2,3-Trichlorobenzene			5.00	4.63		ug/L		93	60 - 136	1	28

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 320-728533/12
Matrix: Water
Analysis Batch: 728533

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			12/18/23 17:32	1

Lab Sample ID: LCS 320-728533/13
Matrix: Water
Analysis Batch: 728533

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	49.9	54.9		ug/L		110	85 - 115

Lab Sample ID: MRL 320-728533/11
Matrix: Water
Analysis Batch: 728533

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	3.99	3.44	J	ug/L		86	75 - 125

Lab Sample ID: 580-134914-14 MS
Matrix: Water
Analysis Batch: 728533

Client Sample ID: PA-31-121223
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	ND		49.9	53.5		ug/L		107	80 - 120

Lab Sample ID: 580-134914-14 MSD
Matrix: Water
Analysis Batch: 728533

Client Sample ID: PA-31-121223
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	ND		49.9	53.9		ug/L		108	80 - 120	1	20

Lab Sample ID: MB 320-728701/12
Matrix: Water
Analysis Batch: 728701

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			12/18/23 18:26	1

Lab Sample ID: LCS 320-728701/13
Matrix: Water
Analysis Batch: 728701

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	49.9	51.8		ug/L		104	85 - 115

Lab Sample ID: MRL 320-728701/11
Matrix: Water
Analysis Batch: 728701

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	3.99	4.21		ug/L		106	75 - 125

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 320-728844/5
Matrix: Water
Analysis Batch: 728844

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			12/19/23 15:11	1

Lab Sample ID: LCS 320-728844/6
Matrix: Water
Analysis Batch: 728844

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate			49.9	54.9		ug/L		110	85 - 115		

Lab Sample ID: MRL 320-728844/4
Matrix: Water
Analysis Batch: 728844

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate			3.99	4.29		ug/L		107	75 - 125		

Lab Sample ID: 580-134914-10 MS
Matrix: Water
Analysis Batch: 728844

Client Sample ID: PA-27d-121223
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate	ND		250	283		ug/L		113	80 - 120		

Lab Sample ID: 580-134914-10 MSD
Matrix: Water
Analysis Batch: 728844

Client Sample ID: PA-27d-121223
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	ND		250	278		ug/L		111	80 - 120	2	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-446752/3
Matrix: Water
Analysis Batch: 446752

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.5	0.43	mg/L			12/18/23 20:57	1

Lab Sample ID: LCS 580-446752/4
Matrix: Water
Analysis Batch: 446752

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			50.0	52.9		mg/L		106	90 - 110		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 580-446752/5
Matrix: Water
Analysis Batch: 446752

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
Chloride			50.0	52.9		mg/L		106	90 - 110	0	15

Lab Sample ID: 580-134914-14 MS
Matrix: Water
Analysis Batch: 446752

Client Sample ID: PA-31-121223
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	6.4		50.0	59.4		mg/L		106	90 - 110		

Lab Sample ID: 580-134914-14 MSD
Matrix: Water
Analysis Batch: 446752

Client Sample ID: PA-31-121223
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	6.4		50.0	59.4		mg/L		106	90 - 110	0	15

Client Sample ID: TB-121223
Lab Sample ID: 580-134914-1
Date Collected: 12/12/23 00:01
Matrix: Water
Date Received: 12/14/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	446667	JBT	EET SEA	12/20/23 00:25

Client Sample ID: MWA-56d-121223
Lab Sample ID: 580-134914-2
Date Collected: 12/12/23 07:16
Matrix: Water
Date Received: 12/14/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	446612	JBT	EET SEA	12/19/23 20:42
Total/NA	Analysis	314.0		1000	728701	Y1S	EET SAC	12/18/23 21:59
Total/NA	Analysis	300.0		1000	446752	CA	EET SEA	12/18/23 21:44

Client Sample ID: Dup-01-121223
Lab Sample ID: 580-134914-3
Date Collected: 12/12/23 07:17
Matrix: Water
Date Received: 12/14/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	446612	JBT	EET SEA	12/19/23 18:20
Total/NA	Analysis	8260D	DL	10	446722	K1K	EET SEA	12/20/23 20:10
Total/NA	Analysis	314.0		1000	728701	Y1S	EET SAC	12/18/23 22:14
Total/NA	Analysis	300.0		1000	446752	CA	EET SEA	12/18/23 22:07

Client Sample ID: MWA-58d-121223
Lab Sample ID: 580-134914-4
Date Collected: 12/12/23 08:03
Matrix: Water
Date Received: 12/14/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		5	446612	JBT	EET SEA	12/19/23 20:22
Total/NA	Analysis	314.0		1000	728701	Y1S	EET SAC	12/18/23 22:29
Total/NA	Analysis	300.0		1000	446752	CA	EET SEA	12/18/23 22:30

Client Sample ID: RB-01-121223
Lab Sample ID: 580-134914-5
Date Collected: 12/12/23 08:20
Matrix: Water
Date Received: 12/14/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	446612	JBT	EET SEA	12/19/23 18:40
Total/NA	Analysis	314.0		1	728701	Y1S	EET SAC	12/18/23 21:29
Total/NA	Analysis	300.0		1	446752	CA	EET SEA	12/18/23 22:42

Client Sample ID: PA-22d-121223
Lab Sample ID: 580-134914-6
Date Collected: 12/12/23 09:06
Matrix: Water
Date Received: 12/14/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	446667	JBT	EET SEA	12/20/23 02:06

Lab Chronicle

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-22d-121223
Lab Sample ID: 580-134914-6
Date Collected: 12/12/23 09:06
Matrix: Water
Date Received: 12/14/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	314.0		1000	728701	Y1S	EET SAC	12/18/23 22:44
Total/NA	Analysis	300.0		100	446752	CA	EET SEA	12/18/23 23:17

Client Sample ID: MWA-63-121223
Lab Sample ID: 580-134914-7
Date Collected: 12/12/23 10:30
Matrix: Water
Date Received: 12/14/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	446667	JBT	EET SEA	12/20/23 02:26
Total/NA	Analysis	8260D	DL	100	446722	K1K	EET SEA	12/20/23 20:51
Total/NA	Analysis	314.0		1	728701	Y1S	EET SAC	12/18/23 21:44
Total/NA	Analysis	300.0		1	446752	CA	EET SEA	12/18/23 23:40

Client Sample ID: PA-20d-121223
Lab Sample ID: 580-134914-8
Date Collected: 12/12/23 11:19
Matrix: Water
Date Received: 12/14/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	446667	JBT	EET SEA	12/20/23 02:46
Total/NA	Analysis	8260D	RA	1	446722	K1K	EET SEA	12/20/23 19:50
Total/NA	Analysis	314.0		5	728701	Y1S	EET SAC	12/18/23 20:29
Total/NA	Analysis	300.0		100	446752	CA	EET SEA	12/18/23 23:52

Client Sample ID: PA-21d-121223
Lab Sample ID: 580-134914-9
Date Collected: 12/12/23 12:13
Matrix: Water
Date Received: 12/14/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		500	446612	JBT	EET SEA	12/19/23 21:22
Total/NA	Analysis	314.0		5	728701	Y1S	EET SAC	12/18/23 20:44
Total/NA	Analysis	300.0		10	446752	CA	EET SEA	12/19/23 00:04

Client Sample ID: PA-27d-121223
Lab Sample ID: 580-134914-10
Date Collected: 12/12/23 07:06
Matrix: Water
Date Received: 12/14/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	446667	JBT	EET SEA	12/20/23 03:07
Total/NA	Analysis	314.0		5	728844	JCB	EET SAC	12/19/23 16:25
Total/NA	Analysis	300.0		10	446752	CA	EET SEA	12/19/23 00:16

Lab Chronicle

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-04-121223
Lab Sample ID: 580-134914-11
Date Collected: 12/12/23 08:15
Matrix: Water
Date Received: 12/14/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	446722	K1K	EET SEA	12/20/23 18:09
Total/NA	Analysis	314.0		1	728533	Y1S	EET SAC	12/18/23 19:01
Total/NA	Analysis	300.0		1	446752	CA	EET SEA	12/19/23 00:27

Client Sample ID: PA-10i-121223
Lab Sample ID: 580-134914-12
Date Collected: 12/12/23 10:00
Matrix: Water
Date Received: 12/14/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	446849	K1K	EET SEA	12/21/23 15:09
Total/NA	Analysis	314.0		2	728844	JCB	EET SAC	12/19/23 15:40
Total/NA	Analysis	300.0		1	446752	CA	EET SEA	12/19/23 00:39

Client Sample ID: PA-18d-121223
Lab Sample ID: 580-134914-13
Date Collected: 12/12/23 11:53
Matrix: Water
Date Received: 12/14/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	446667	JBT	EET SEA	12/20/23 01:25
Total/NA	Analysis	314.0		5	728701	Y1S	EET SAC	12/18/23 20:00
Total/NA	Analysis	300.0		1	446752	CA	EET SEA	12/19/23 00:51

Client Sample ID: PA-31-121223
Lab Sample ID: 580-134914-14
Date Collected: 12/12/23 13:42
Matrix: Water
Date Received: 12/14/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	446722	K1K	EET SEA	12/20/23 18:29
Total/NA	Analysis	314.0		1	728533	Y1S	EET SAC	12/18/23 18:08
Total/NA	Analysis	300.0		1	446752	CA	EET SEA	12/19/23 01:02

Client Sample ID: PA-19d-121323
Lab Sample ID: 580-134914-15
Date Collected: 12/13/23 06:40
Matrix: Water
Date Received: 12/14/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		200	446667	JBT	EET SEA	12/20/23 05:49
Total/NA	Analysis	8260D	RA	200	446722	K1K	EET SEA	12/20/23 21:51
Total/NA	Analysis	314.0		5	728701	Y1S	EET SAC	12/18/23 20:15
Total/NA	Analysis	300.0		10	446752	CA	EET SEA	12/19/23 02:01

Lab Chronicle

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Client Sample ID: PA-30d-121323
Lab Sample ID: 580-134914-16
Date Collected: 12/13/23 07:31
Matrix: Water
Date Received: 12/14/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		200	446722	K1K	EET SEA	12/20/23 22:11
Total/NA	Analysis	8260D	DL	1000	446849	K1K	EET SEA	12/21/23 17:51
Total/NA	Analysis	314.0		5	728701	Y1S	EET SAC	12/18/23 19:43
Total/NA	Analysis	300.0		10	446752	CA	EET SEA	12/19/23 02:24

Client Sample ID: RB-02-121323
Lab Sample ID: 580-134914-17
Date Collected: 12/13/23 05:30
Matrix: Water
Date Received: 12/14/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	446667	JBT	EET SEA	12/20/23 01:46
Total/NA	Analysis	314.0		1	728533	Y1S	EET SAC	12/18/23 19:19
Total/NA	Analysis	300.0		1	446752	CA	EET SEA	12/19/23 02:36

Client Sample ID: PA-32i-121323
Lab Sample ID: 580-134914-18
Date Collected: 12/13/23 07:39
Matrix: Water
Date Received: 12/14/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	446722	K1K	EET SEA	12/20/23 17:48
Total/NA	Analysis	314.0		2	728844	JCB	EET SAC	12/19/23 15:55
Total/NA	Analysis	300.0		1	446752	CA	EET SEA	12/19/23 02:48

Client Sample ID: DUP-02-121323
Lab Sample ID: 580-134914-19
Date Collected: 12/13/23 07:40
Matrix: Water
Date Received: 12/14/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	446849	K1K	EET SEA	12/21/23 17:10
Total/NA	Analysis	314.0		2	728844	JCB	EET SAC	12/19/23 16:10
Total/NA	Analysis	300.0		1	446752	CA	EET SEA	12/19/23 02:59

Client Sample ID: MWA-11i(d)-121323
Lab Sample ID: 580-134914-20
Date Collected: 12/13/23 09:00
Matrix: Water
Date Received: 12/14/23 11:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	446849	K1K	EET SEA	12/21/23 16:30
Total/NA	Analysis	314.0		5	728533	Y1S	EET SAC	12/18/23 19:37
Total/NA	Analysis	300.0		10	446752	CA	EET SEA	12/19/23 03:11

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

EET SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Laboratory: Eurofins Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4167	07-07-24

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4040	01-29-24

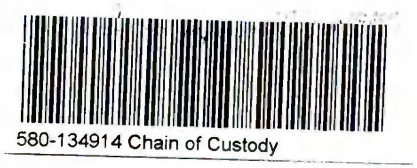
Sample Summary

Client: ERM-West
Job ID: 580-134914-1
Project/Site: Arkema - Q4 2023 Groundwater Event

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-134914-1	TB-121223	Water	12/12/23 00:01	12/14/23 11:13
580-134914-2	MWA-56d-121223	Water	12/12/23 07:16	12/14/23 11:13
580-134914-3	Dup-01-121223	Water	12/12/23 07:17	12/14/23 11:13
580-134914-4	MWA-58d-121223	Water	12/12/23 08:03	12/14/23 11:13
580-134914-5	RB-01-121223	Water	12/12/23 08:20	12/14/23 11:13
580-134914-6	PA-22d-121223	Water	12/12/23 09:06	12/14/23 11:13
580-134914-7	MWA-63-121223	Water	12/12/23 10:30	12/14/23 11:13
580-134914-8	PA-20d-121223	Water	12/12/23 11:19	12/14/23 11:13
580-134914-9	PA-21d-121223	Water	12/12/23 12:13	12/14/23 11:13
580-134914-10	PA-27d-121223	Water	12/12/23 07:06	12/14/23 11:13
580-134914-11	PA-04-121223	Water	12/12/23 08:15	12/14/23 11:13
580-134914-12	PA-10i-121223	Water	12/12/23 10:00	12/14/23 11:13
580-134914-13	PA-18d-121223	Water	12/12/23 11:53	12/14/23 11:13
580-134914-14	PA-31-121223	Water	12/12/23 13:42	12/14/23 11:13
580-134914-15	PA-19d-121323	Water	12/13/23 06:40	12/14/23 11:13
580-134914-16	PA-30d-121323	Water	12/13/23 07:31	12/14/23 11:13
580-134914-17	RB-02-121323	Water	12/13/23 05:30	12/14/23 11:13
580-134914-18	PA-32i-121323	Water	12/13/23 07:39	12/14/23 11:13
580-134914-19	DUP-02-121323	Water	12/13/23 07:40	12/14/23 11:13
580-134914-20	MWA-11i(d)-121323	Water	12/13/23 09:00	12/14/23 11:13

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record



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Client Information
Client Contact: Avery Soplata and Andrew Gardner
Company: ERM-West
Address: 1050 SW 6th Avenue Suite 1650
City: Portland
State, Zip: OR, 97204
Phone:
Email: avery.soplata@erm.com andrew.gardner@erm.com
Project Name: Arkema - Q4 2023 Groundwater event
Site:

Sampler: ST PV
Phone:
Due Date Requested:
TAT Requested (days): 15BD
PO #: PN 0682894.207
WO #:
Project #: 0682894
SSOW#:

Lab PM: Cruz, Sheri L
E-Mail: sheri.cruz@testamericainc.com

OC No:
age: 1 of 2
Job #:

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	Total Number of containers	Special Instructions/Note:
Preservation Code:							A	A	N	N		
TB-121223	12/12/23		G	Water				X			2	
MWA-56d-121223		0716		Water			X		X	X	5	
Dup-01-121223		0717		Water			X		X	X	5	
MWA-58d-121223		0803		Water			X		X	X	5	
RB-01-121223		0820		Water			X		X	X	5	
PA-22d-121223		0906		Water			X		X	X	5	
MWA-63-121223		1030		Water			X		X	X	5	
~~PA-20d-121223~~				~~Water~~			X		X	X	5	ST
PA-20d-121223		1119		Water			X		X	X	5	
PA-21d-121223		1213					X		X	X	5	
PA-27d-121223		0706					X		X	X	8	D:1 VOC

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

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

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

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

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

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/14/23 1045	ERM		12/14/23 1045	M.E.
2		12/14/23 1113	M.E.		12/14/23 1113	ERM
3						

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 1-2

Ver: 01/16/2019

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

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Client Information	Sampler: PV/ST	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:
Client Contact: Avery Soplata and Andrew Gardner	Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 2 of 2
Company: ERM-West				Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:			
City: Portland	TAT Requested (days): 15BD			
State, Zip: OR, 97204				
Phone:	PO #: PN 0682894.207			
Email: avery.soplata@erm.com andrew.gardner@erm.com	WO #:			
Project Name: Arkema - Q4 2023 Groundwater event	Project #: 0682894			
Site:	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	MS/MSD	Total Number of containers	Special Instructions/Note:
				Preservation Code:			A	A	N	N			
PA-04-121223	12/12/23	0815	G	Water				X	X	X		5	
PA-10i-121223	↓	1000	↓	Water				X	X	X		5	
PA-18d-121223	↓	1153	↓	Water			X		X	X		5	
PA-31-121223	↓	1342	↓	Water				X	X	X	X	15	
PA-19d-121323	12/13/23	0640	G	Water			X		X	X		8	Dil VOC
PA-30d-121323	↓	0731	↓	Water			X		X	X		8	Dil VOC
RB-02-121323	↓	0530	↓	Water				X	X	X		5	
PA-32i-121323	↓	0739	↓	Water				X	X	X		5	
Dup-02-121323	↓	0740	↓	Water				X	X	X		5	
MWA-11i(d)-121323	↓	0900	↓	"				X	X	X		5	

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

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

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

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

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Empty Kit Relinquished by:	Date:		Time:	Method of Shipment:	
Relinquished by: [signature]	Date/Time: 12/14/23 1045	Company: ERM	Received by: [signature]	Date/Time: 12/14/23 1045	Company: M.E.
Relinquished by: [signature]	Date/Time: 12/14/23 1113	Company: M.E.	Received by: [signature]	Date/Time: 12/14/23 1113	Company: [signature]
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Ver: 01/16/2019

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

580-134914 Chain of Custody

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Client Information	Sampler: ST PV	Lab PM: Cruz, Sheri L	COC No:
Client Contact: Avery Soplata and Andrew Gardner	Phone:	E-Mail: sheri.cruz@testamericainc.com	Page: 1 of 2
Company: ERM-West			Job #:
Address: 1050 SW 6th Avenue Suite 1650	Due Date Requested:		
City: Portland	TAT Requested (days): 15BD		
State, Zip: OR, 97204			
Phone:	PO #: PN 0682894.207		
Email: avery.soplata@erm.com andrew.gardner@erm.com	WO #:		
Project Name: Arkema - Q4 2023 Groundwater event	Project #: 0682894		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C regular level standard VOA list-Seattle	8260C_LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	Total Number of containers	Special Instructions/Note:
Preservation Code:							A	A	N	N		
TB-121223	12/12/23		G	Water				X			2	
MWA-56d-121223		0816		Water			X		X	X	5	
Dup-01-121223		0717		Water			X		X	X	5	
MWA-58d-121223		0803		Water			X		X	X	5	
RB-01-121223		0820		Water			X		X	X	5	
PA-22d-121223		0906		Water			X		X	X	5	
MWA-63-121223		1030		Water			X		X	X	5	
~~PA-20d-121223~~				~~Water~~			X		X	X	5	ST
PA-20d-121223		1119		Water			X		X	X	5	
PA-21d-121223		1213					X		X	X	8	Dil VOC
PA-27d-121223		0706					X		X	X		

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

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

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

Special Instructions/QC Requirements: please run at lowest dilution possible for ND.

Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 12/14/23 1045	Company: ERM	Received by:	Date/Time: 12/14/23 1045	Company: M.E.	
Relinquished by:	Date/Time: 12/14/23 1113	Company: M.E.	Received by:	Date/Time: 12/14/23 1113	Company:	
Relinquished by:	Date/Time: 12/14/23 1700	Company:	Received by:	Date/Time: 12/14/23 0945	Company:	
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 2.9 IC 1-2			

Ver: 01/16/2019

Eurofins Seattle
5755 8th Street East
Tacoma, WA 98424
Phone: 253-922-2310

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No: 580-128365.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Sheri.Cruz@et.eurofinsus.com	State of Origin: Oregon	Page: Page 1 of 3
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): NELAP - Oregon		Job #: 580-134914-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/8/2024			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Arkema - Q4 2023 Groundwater Event	Project #: 58016290			
Site:	SSOW#:			

Analysis Requested

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

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MWA-56d-121223 (580-134914-2)	12/12/23	07:16 Pacific		Water			X	1	
Dup-01-121223 (580-134914-3)	12/12/23	07:17 Pacific		Water			X	1	
MWA-58d-121223 (580-134914-4)	12/12/23	08:03 Pacific		Water			X	1	
RB-01-121223 (580-134914-5)	12/12/23	08:20 Pacific		Water			X	1	
PA-22d-121223 (580-134914-6)	12/12/23	09:06 Pacific		Water			X	1	
MWA-63-121223 (580-134914-7)	12/12/23	10:30 Pacific		Water			X	1	
PA-20d-121223 (580-134914-8)	12/12/23	11:19 Pacific		Water			X	1	
PA-21d-121223 (580-134914-9)	12/12/23	12:13 Pacific		Water			X	1	
PA-27d-121223 (580-134914-10)	12/12/23	07:06 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northwest, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 12/14/23 1520	Company: EUN	Received by:	Date/Time: 12/15/23 915	Company: EUN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☑ Yes ☐ No	Custody Seal No.: 3082484	Cooler Temperature(s) °C and Other Remarks: 1.0c

Ver: 06/08/2021

Eurofins Seattle
5755 8th Street East
Tacoma, WA 98424
Phone: 253-922-2310

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No: 580-128365.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Sheri.Cruz@et.eurofinsus.com	State of Origin: Oregon	Page: Page 2 of 3
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): NELAP - Oregon		Job #: 580-134914-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/8/2024			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Arkema - Q4 2023 Groundwater Event	Project #: 58016290			
Site:	SSOW#:			

Analysis Requested

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

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
PA-04-121223 (580-134914-11)	12/12/23	08:15 Pacific		Water			X	1	
PA-10i-121223 (580-134914-12)	12/12/23	10:00 Pacific		Water			X	1	
PA-18d-121223 (580-134914-13)	12/12/23	11:53 Pacific		Water			X	1	
PA-31-121223 (580-134914-14)	12/12/23	13:42 Pacific		Water			X	1	
PA-31-121223 (580-134914-14MS)	12/12/23	13:42 Pacific	MS	Water			X	1	
PA-31-121223 (580-134914-14MSD)	12/12/23	13:42 Pacific	MSD	Water			X	1	
PA-19d-121323 (580-134914-15)	12/13/23	06:40 Pacific		Water			X	1	
PA-30d-121323 (580-134914-16)	12/13/23	07:31 Pacific		Water			X	1	
RB-02-121323 (580-134914-17)	12/13/23	05:30 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northwest, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/14/23 1520	ET		12/15/23 915	ESSEA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: 3882484	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins Seattle
5755 8th Street East
Tacoma, WA 98424
Phone: 253-922-2310

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No: 580-128365.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: Sheri.Cruz@et.eurofinsus.com	State of Origin: Oregon	Page: Page 3 of 3
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): NELAP - Oregon		Job #: 580-134914-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/8/2024			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Arkema - Q4 2023 Groundwater Event	Project #: 58016290			
Site:	SSOW#:			

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

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
PA-32i-121323 (580-134914-18)	12/13/23	07:39 Pacific		Water			X	1	
DUP-02-121323 (580-134914-19)	12/13/23	07:40 Pacific		Water			X	1	
MWA-11i(d)-121323 (580-134914-20)	12/13/23	09:00 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northwest, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 12/14/23 1520	Company ET	Received by:	Date/Time: 12/15/23 905	Company ESSNW
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: 2088784		Cooler Temperature(s) °C and Other Remarks: 1.0c		

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-134914-1

Login Number: 134914
List Number: 1
Creator: O'Connell, Jason I

List Source: Eurofins Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-134914-1

Login Number: 134914
List Number: 2
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 12/15/23 02:50 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	2082787
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.2 c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Tracking # : 6853 8469 3471

Job:_____

580-134914 Field Sheet

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: IR06 Corr. Factor: (+ / -) — °C

Ice 1 Wet 1 Gel _____ Other _____

Cooler Custody Seal: 2082787

Cooler ID: _____

Temp Observed: 1.2 °C Corrected: 1.2 °C

From: Temp Blank ☐ Sample ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☐	☐
Cooler Temperature is acceptable?	☐	☐	☐
Frozen samples show signs of thaw?	☐	☐	☐

Initials: _____ Date: 12-15-23

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☐	☐	☐
Samples compromised/tampered with?	☐	☐	☐
COC is complete w/o discrepancies	☐	☐	☐
Sample custody seal?	☐	☐	☐
Sample containers have legible labels?	☐	☐	☐
Sample date/times are provided?	☐	☐	☐
Appropriate containers are used?	☐	☐	☐
Sample bottles are completely filled?	☐	☐	☐
Sample preservatives verified?	☐	☐	☐
Is the Field Sampler's name on COC?	☐	☐	☐
Samples w/o discrepancies?	☐	☐	☐
Zero headspace?*	☐	☐	☐
Alkalinity has no headspace?	☐	☐	☐
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☐
Multiphasic samples are not present?	☐	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: _____ Date: 12-15-23

Notes: _____

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☐	☐	☐
NCM Filed?	☐	☐	☐
Samples received within hold time?	☐	☐	☐
Log Release checked in TALS?	☐	☐	☐

Initials: _____ Date: 12-15-23

APPENDIX C DATA VALIDATION MEMOS

1050 SW 6th Avenue
Suite 1650
Portland, OR 97204

T +1 503 488 5282

erm.com

MEMO

TO	Sarah Seekins
FROM	Rachel James
DATE	18 January 2024
REFERENCE	0682868
SUBJECT	Data Review of Arkema Fourth Quarter 2023 Groundwater Samples: Eurofins Data Packages: 580-134815-1 Rev(2) and 580-134914-1 Rev(2).

The data quality was assessed, and any necessary qualifiers were applied following the *USEPA National Functional Guidelines for Organic Superfund Methods Data Review*, November 2020 and *USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review*, November 2020. Field duplicates were assessed following *Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures*, September 2020.

HOLDING TIME AND PRESERVATION EVALUATION

The samples were prepared and analyzed within the method-prescribed time period from the date of collection. The sample shipments were received at the laboratory within the method-prescribed temperature preservation requirements of less than six degrees Celsius. No qualifications were necessary.

BLANK EVALUATION

The method, rinse, and trip blank sample results were non-detected for each of the target analytes, with the exceptions noted in Table 1. Non-detected results were considered not affected by the blank contamination and were not qualified. Associated sample results less than the report limit (RL) were qualified as non-detect (U) at the RL. The chlorobenzene detection in trip blank sample TB-121023 was associated with laboratory contamination and no further qualification was necessary.

CONTINUING CALIBRATION VERIFICATION EVALUATION

The continuing calibration verification (CCV) recoveries were within the laboratory's limits of acceptance, with the exceptions noted in Table 2. The laboratory described that analytes in several CCVs were recovered above the upper control limit. In all cases, the affected analytes were not detected in associated samples and qualification was not necessary.

BLANK SPIKE EVALUATION

The laboratory control sample and laboratory control sample duplicate recoveries and relative percent differences (RPDs) were within the laboratory's limits of acceptance, with the exception noted in Table 3. No data were qualified based on the high RPD as the affected analyte was not detected in project samples.

MATRIX SPIKE EVALUATION

The matrix spike (MS) and matrix spike duplicate (MSD) recoveries and RPDs were within the laboratory's limits of acceptance for samples prepared from project samples, with the exceptions noted in Table 3. No data were qualified if the outlier could be verified by an in-control result or if a high recovery was associated with a non-detected result. The non-detected results for styrene and 1,3,5-trimethylbenzene in MS/MSD parent sample MWA-31i(d)-121123 were qualified as estimates (UJ) due to low recoveries. The styrene recovery was very low (0%); however, the non-detected result is consistent with historical data and the result was not rejected. Additionally, the detected results for 1,1-dichloroethane, chloroform, and 1,1,1-trichloroethane in MS/MSD parent sample PA-31-121223 were qualified as estimates with a high bias (J+) due to high recoveries.

SURROGATE SPIKE EVALUATION

The surrogate recoveries were within acceptable limits. No qualifications were required based on surrogate recoveries. The surrogate recoveries indicate minimal matrix interference in the samples.

FIELD DUPLICATE EVALUATION

Two samples were submitted in duplicate. ERM calculated the differences or RPDs between detected results in Table 4. An RPD control limit of 30 was used when both the sample and the field duplicate results were greater than or equal to five times the RL. A control limit of ± two times the reporting limit was used when at least one of the results was less than five times the RL. The control limits were not applicable when both results were below the RLs or if one result was not detected and the other was less than the RL. All analytes in the parent sample/field duplicate pairs met the control limits.

OVERALL ASSESSMENT

None of the data required rejection. All the data, including qualified data, can be used for decision-making purposes; however, the limitations indicated by the applied qualifiers should be considered when using the data. The quality of the data generated during this investigation is acceptable for the preparation of technically defensible documents.

Table 1
Blank and Associated Suspect Sample Detections
Fourth Quarter 2023 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Blank ID	Detected Analyte	Reported Blank Concentration	Blank Report Limit	Associated Sample	Associated Sample Result	Associated Sample Report Limit	Units	ERM Qualifier
580-134815-1 Rev(2)	MB 580-446157/7	Chlorobenzene	0.0785	0.20	TB-121023	0.12	0.20	µg/L	0.20 U
					MWA-82-121023	0.080	0.20	µg/L	0.20 U
					MWA-81i-121023	0.064	0.20	µg/L	0.20 U
					MWA-41-121023	0.063	0.20	µg/L	0.20 U
					PA-15i-121123	0.077	0.20	µg/L	0.20 U
					PA-16i-121123	0.066	0.20	µg/L	0.20 U
					PA-17iR-121123	0.19	0.20	µg/L	0.20 U
		Hexachlorobutadiene	0.0802	0.50	None for qualification, samples ND	--	--	µg/L	--
580-134914-1 Rev(2)	MB 580-446849/7	Hexachlorobutadiene	0.0965	0.50	None for qualification, samples ND	--	--	µg/L	--

Notes:
-- = not applicable; associated data not affected
MB = method blank
ND = not detected
U = nondetected
µg/L = micrograms per liter

Table 2
Calibration Verification Recoveries Outside of Acceptable Limits
Fourth Quarter 2023 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	CCV Sample ID	Analyte	CCV Recovery	CCV Limits	Associated Sample	Reported Concentration	Units	ERM Qualifier
580-134815-1 Rev(2)	Batch 580-446252 CCV	Dichlorodifluoromethane	High	NR	None for qualification, samples ND	--	--	--
	Batch 580-446157 CCV	Acetone	High	NR	None for qualification, samples ND	--	--	--
		2-Butanone				--	--	--
	Batch 580-446849 CCV	Dichlorodifluoromethane	High	NR	None for qualification, samples ND	--	--	--
		Carbon disulfide				--	--	--
		2,2-Dichloropropane				--	--	--
		2-Butanone				--	--	--
		Bromomethane				--	--	--
580-134914-1 Rev(2)	Batch 580-446612 CCV	Dichlorodifluoromethane	High	NR	None for qualification, samples ND	--	--	--
		2-Butanone				--	--	--
		4-Methyl-2-pentanone				--	--	--
		1,2-Dibromo-3-Chloropropane				--	--	--
	Batch 580-446667 CCV	Dichlorodifluoromethane	High	NR	None for qualification, samples ND	--	--	--
		Bromomethane				--	--	--
	Batch 580-446849 CCV	Dichlorodifluoromethane	High	NR	None for qualification, samples ND	--	--	--
		Carbon disulfide				--	--	--
		2,2-Dichloropropane				--	--	--
		2-Butanone				--	--	--
		Bromomethane				--	--	--

Notes:
-- = not applicable; associated data not affected
CCV = continuing calibration verification
High = recovery above maximum acceptable limit
ND = not detected
NR = not reported

Table 3
Spike Recoveries Outside of Acceptable Limits
Fourth Quarter 2023 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
LCS/LCSD										
580-134815-1 Rev(2)	LCS 580-446252/4 LCSD 580-446252/5	None for qualification, samples ND	Acetone	133/92	44-150	36	33	--	--	--
MS/MSD										
580-134815-1 Rev(2)	MWA-31i(d)-121123 MS/MSD	None for qualification, MSD %R passes	Chloroform	130/87	78-127	5	14	--	--	--
		MWA-31i(d)-121123	Styrene	0/0	76-122	NC	16	ND	µg/L	UJ
			1,3,5-Trimethylbenzene	53/49	80-122	9	21	ND	µg/L	UJ
580-134914-1 Rev(2)	PA-31-121223 MS/MSD	None for qualification, MSD %R passes	Trichlorofluoromethane	146/126	60-132	14	32	--	--	--
			trans-1,2-Dichloroethene	124/117	69-121	5	27	--	--	--
		PA-31-121223	1,1-Dichloroethane	125/121	74-120	3	26	0.21	µg/L	J+
			Chloroform	132/125	75-120	5	21	0.052	µg/L	J+
			1,1,1-Trichloroethane	133/125	70-121	6	24	0.22	µg/L	J+
		None for qualification, parent sample ND	cis-1,2-Dichloroethene	132/123	72-120	8	22	ND	µg/L	--
			Chlorobromomethane	124/122	79-121	2	20	ND	µg/L	--
		None for qualification, MS %R passes	Benzene	123/117	80-120	5	22	--	--	--
			Trichloroethene	122/119	72-120	3	22	--	--	--

Notes:
-- = not applicable; associated data not affected
%R = percent recovery
J+ = detected results are estimated with a high bias
LCS/LCSD = laboratory control sample/laboratory control sample duplicate
MS/MSD = matrix spike/matrix spike duplicate
NC = not calculated
ND = not detected
RPD = relative percent difference
µg/L = micrograms per liter
UJ = nondetected, estimated report limit

Table 4
Field Duplicate Evaluation
Fourth Quarter 2023 Groundwater Samples
Arkema Portland
Portland, Oregon

Lab Package	Primary / Duplicate Sample ID	Analyte	Concentration		Concentration		Difference	Difference Limit	Units	RPD	RPD Limit	ERM Qualifier
			Sample	Duplicate	Sample	Duplicate						
580-134914-1 Rev(2)	MWA-56d-121223/ Dup-01-121223	Acetone	55	ND	150	15	--	NA	µg/L	--	NA	--
		Chloroform	150	150	10	10	--	NA	µg/L	0.0	30	--
		Bromodichloromethane	ND	0.75	10	1.0	--	NA	µg/L	--	NA	--
		Perchlorate	14000	14000	4000	4000	0	8000	µg/L	--	NA	--
		Chloride	14000	14000	1500	1500	--	NA	mg/L	0.0	30	--
	PA-32i-121323/ DUP-02-121323	Chloromethane	ND	0.22	0.50	0.50	--	NA	µg/L	--	NA	--
		Vinyl chloride	0.083	0.072	0.10	0.10	--	NA	µg/L	--	NA	--
		Chloroethane	0.19	0.18	0.50	0.50	--	NA	µg/L	--	NA	--
		cis-1,2-Dichloroethene	ND	0.065	0.20	0.20	--	NA	µg/L	--	NA	--
		Benzene	0.030	0.031	0.20	0.20	--	NA	µg/L	--	NA	--
		Chlorobenzene	0.15	0.18	0.20	0.20	--	NA	µg/L	--	NA	--
		1,2-Dichlorobenzene	0.12	0.13	0.30	0.30	--	NA	µg/L	--	NA	--
		Chloride	32	34	1.5	1.5	--	NA	mg/L	6.1	30	--

Notes:
-- = not applicable; associated data not affected
mg/L = milligrams per liter
NA = not applicable
ND = not detected
RPD = relative percent difference
µg/L = micrograms per liter

APPENDIX D PRIOR GROUNDWATER MONITORING PROGRAM DATA TABLES AND GRAPHS

Appendix D
Prior Groundwater Monitoring Plan Data Table
Arkema Quarter 4, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride ug/L*	*Chlorobenzene ug/L*	*Perchlorate ug/L*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-102319	10/23/2019	**5,900**	*< 0.44 U*	*< 0.95 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-021220	02/12/2020	**10,900**	**0.16 j**	*< 0.95 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-051820	05/18/2020	**14,000**	*< 0.025 U*	*< 0.95 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-081820	08/18/2020	**16,000**	*< 0.025 U*	*< 0.95 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-102720	10/27/2020	**5,800**	*< 0.025 U*	*< 0.95 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-031821	03/18/2021	**18,000**	*< 0.025 U*	*< 2.0 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-092221	09/22/2021	**10,000**	*< 0.025 U*	*< 2.0 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-121421	12/14/2021	**5,300**	*< 0.025*	*< 2.0*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-031422	03/14/2022	**14,000 J-**	*< 0.060 U*	*< 2.0 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-060622	06/06/2022	**9,600**	*< 0.060 U*	*< 2.0 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-110722	11/07/2022	**21,000**	*< 0.060 U*	*< 2.0 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-030623	03/06/2023	**7,800**	*< 0.060 U*	*< 2.0 UJ*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-061323	06/13/2023	**7,500**	*< 0.060*	*< 2.0*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-082123	08/21/2023	**7,100**	*< 0.060 U*	*< 2.0 U*
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-121023	12/10/2023	**5,600**	*< 0.20 U*	*< 2.0 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-110619	11/06/2019	**83,000**	*< 44 U*	*< 0.95 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-021720	02/17/2020	**8,400**	*< 0.44 U*	*< 0.95 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-052620	05/26/2020	**13,000**	*< 0.44 U*	*< 0.95 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-082420	08/24/2020	**29,000**	*< 0.44 U*	*< 0.95 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-110320	11/03/2020	**71,000**	*< 0.44 U*	*< 4.8 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-032921	03/29/2021	**7,200 J**	*< 0.44 U*	*< 2.0 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-092321	09/23/2021	**58,000 J**	*< 0.44 UJ*	*< 2.0 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-121521	12/15/2021	**14,000**	*< 0.44*	*< 2.0*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-031522	03/15/2022	**5,500 J-**	*< 4.4 UJ*	*< 2.0 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-060822	06/08/2022	**4,900**	*< 0.30 U*	**13**
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-110922	11/09/2022	**33,000**	*< 0.44 U*	*< 2.0 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-030923	03/09/2023	**5,500**	**5.6 j**	*< 10 UJ*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-061523	06/15/2023	**5,700 j**	*< 0.44*	*< 2.0*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-082323	08/23/2023	**17,000**	*< 0.44 U*	*< 2.0 U*
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-121223	12/12/2023	**15,000**	*< 0.44 U*	*< 2.0 U*
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-102319	10/23/2019	**14,700**	*< 0.44 U*	**190**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-021120	02/11/2020	**34,800**	**0.24**	*< 48 U*

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Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride ug/L*	*Chlorobenzene ug/L*	*Perchlorate ug/L*
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-051920	05/19/2020	**10,000**	*< 0.025 U*	**71 j**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-081820	08/18/2020	**15,000**	**0.030 j**	**530**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-102720	10/27/2020	**14,000**	*< 0.20 U*	**77**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-031821	03/18/2021	**11,000 J**	*< 0.025 U*	**290**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-092121	09/21/2021	**14,000**	*< 0.025 U*	**56**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-121421	12/14/2021	**13,000**	*< 0.025*	**150**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-031422	03/14/2022	**11,000 J-**	*< 0.060 U*	**52**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-060622	06/06/2022	**11,000**	*< 0.060 U*	**340**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-110722	11/07/2022	**9,000**	*< 0.060 U*	**120**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-030623	03/06/2023	**11,000**	*< 0.060 U*	**210 J-**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-061323	06/13/2023	**9,900**	*< 0.060*	**150**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-082123	08/21/2023	**9,700**	*< 0.060 U*	**210**
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-121023	12/10/2023	**14,000**	*< 0.20 U*	*< 10 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-102519	10/25/2019	**9,700**	*< 0.44 U*	*< 4.8 U*
Shallow	PA-03	GCC1 & Proximal Wells	Pa-03-021420	02/14/2020	**9,700**	**0.29**	*< 48 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-052120	05/21/2020	**8,300**	*< 0.025 U*	*< 48 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-081820	08/18/2020	**10,000**	*< 0.025 U*	*< 95 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-102820	10/28/2020	*< 9,000 U*	*< 0.025 U*	*< 19 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-032221	03/22/2021	**9,600 J**	*< 0.025 U*	*< 20 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-092221	09/22/2021	**7,800**	*< 0.025 U*	*< 20 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-121321	12/13/2021	**7,300**	*< 0.025*	*< 20*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-031622	03/16/2022	**7,300**	*< 0.060 U*	*< 20 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-060822	06/08/2022	**5,500**	*< 0.070 U*	*< 4.0 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-110822	11/08/2022	**6,200**	*< 0.060 U*	*< 4.0 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-030723	03/07/2023	**6,500**	*< 0.060 U*	*< 4.0 UJ*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-061423	06/14/2023	**4,500**	*< 0.060*	*< 2.0*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-082223	08/22/2023	**4,500**	*< 0.060 U*	*< 2.0 U*
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-121123	12/11/2023	**4,600**	*< 0.060 U*	*< 4.0 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-102819	10/28/2019	**14,300**	*< 2.0 U*	*< 4.8 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-021720	02/17/2020	**13,700**	**0.14 j**	*< 48 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-052220	05/22/2020	**12,000**	*< 0.025 U*	*< 4.8 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-081920	08/19/2020	**14,000 J+**	*< 0.025 U*	*< 19 U*

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Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride ug/L*	*Chlorobenzene ug/L*	*Perchlorate ug/L*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-102920	10/29/2020	**12,000**	*< 0.025 U*	*< 4.8 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-032421	03/24/2021	**7,900 J**	*< 0.025 U*	*< 20 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-092221	09/22/2021	**11,000**	*< 0.025 U*	*< 10 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-121321	12/13/2021	**7,000**	*< 0.025*	*< 20*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-031722	03/17/2022	**6,500**	*< 0.060 U*	*< 2.0 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-060822	06/08/2022	**7,900**	*< 0.35 U*	*< 2.0 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-110922	11/09/2022	**4,600**	*< 0.060 U*	*< 4.0 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-030823	03/08/2023	**5,400**	*< 0.060 U*	*< 10 UJ*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-061523	06/15/2023	**6,900 j**	*< 0.060*	*< 4.0*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-082223	08/22/2023	**5,900**	*< 0.060 U*	*< 10 U*
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-121223	12/12/2023	**6,100**	*< 0.060 U*	*< 2.0 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-102219	10/22/2019	**201,000**	*< 0.44 U*	*< 19 U*
Shallow	PA-08	GCC6 & Proximal Wells	Pa-08-021320	02/13/2020	**197,000**	**0.53**	*< 48 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-051920	05/19/2020	**130,000**	**0.11 j**	*< 48 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-081820	08/18/2020	**100,000**	*< 0.025 U*	*< 48 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-102720	10/27/2020	**130,000**	**0.092 j**	*< 19 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-031821	03/18/2021	**110,000**	*< 0.025 U*	*< 20 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-092121	09/21/2021	**200,000**	*< 0.25 U*	*< 20 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-121321	12/13/2021	**130,000**	**0.084**	*< 20*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-031422	03/14/2022	**250,000 J-**	*< 0.060 U*	*< 20 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-060622	06/06/2022	**330,000**	*< 0.60 U*	*< 20 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-110722	11/07/2022	**770,000**	*< 0.060 U*	*< 10 U*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-030723	03/07/2023	**380,000**	**0.24**	*< 10 UJ*
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-061323	06/13/2023	**110,000**	*< 0.060*	**11**
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-082123	08/21/2023	**53,000**	*< 0.060 U*	**17**
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-121123	12/11/2023	**29,000**	*< 0.060 U*	*< 4.0 U*
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-110119	11/01/2019	**23,600**	*< 0.44 U*	*< 48 U*
Shallow	PA-09	GCC6 & Proximal Wells	Pa-09-021220	02/12/2020	**199,000**	**0.16 j**	*< 0.95 U*
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-051820	05/18/2020	**14,000**	*< 0.025 U*	*< 19 U*
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-081820	08/18/2020	**160,000 J+**	*< 0.025 U*	*< 19 U*
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-102820	10/28/2020	**14,000 J+**	*< 0.20 U*	**40**
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-031621	03/16/2021	**19,000**	*< 0.025 U*	**36**

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Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride ug/L*	*Chlorobenzene ug/L*	*Perchlorate ug/L*
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-092121	09/21/2021	**61,000**	*< 0.25 U*	*< 20 U*
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-121321	12/13/2021	**13,000**	*< 0.25*	*< 20*
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-031522	03/15/2022	**24,000 J-**	*< 0.060 U*	**20**
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-060722	06/07/2022	**19,000**	*< 0.060 U*	**120**
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-110822	11/08/2022	**68,000**	*< 0.060 U*	*< 10 U*
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-030723	03/07/2023	**120,000 j**	**0.39**	*< 4.0 UJ*
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-061323	06/13/2023	**110,000**	*< 0.060*	**6.2**
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-082123	08/21/2023	**5,700**	*< 0.060 U*	*< 2.0 U*
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-121123	12/11/2023	**5,600**	*< 0.060 U*	*< 2.0 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-103019	10/30/2019	**9,300**	*< 0.44 U*	*< 9.5 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-021820	02/18/2020	**10,500**	**0.15 j**	*< 48 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-052720	05/27/2020	**9,500**	*< 0.025 U*	*< 9.5 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-082420	08/24/2020	**8,800 J+**	*< 0.025 U*	*< 9.5 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-110220	11/02/2020	**8,200 j**	*< 0.025 U*	*< 4.8 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-032921	03/29/2021	**5,500 J**	*< 0.025 U*	*< 20 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-092321	09/23/2021	**8,700**	*< 0.025 U*	*< 10 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-121521	12/15/2021	**7,000**	*< 0.025*	*< 20*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-031522	03/15/2022	**4,500 J-**	*< 0.060 U*	*< 10 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-060922	06/09/2022	**4,300**	*< 0.070 U*	*< 100 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-110822	11/08/2022	**5,900**	*< 0.060 U*	*< 4.0 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-030723	03/07/2023	**5,800 J+**	*< 0.060 U*	*< 2.0 UJ*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-061623	06/16/2023	**2,500**	*< 0.060*	*< 40*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-082423	08/24/2023	**4,600**	*< 0.060 U*	*< 4.0 U*
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-121223	12/12/2023	**6,400**	*< 0.060 U*	*< 2.0 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81i-102319	10/23/2019	**49,800**	*< 0.44 U*	*< 0.95 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81i-021220	02/12/2020	**37,300**	**0.26**	*< 0.95 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81I-051820	05/18/2020	**95,000**	*< 0.025 U*	*< 0.95 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81I-081820	08/18/2020	**190,000**	*< 0.025 U*	*< 0.95 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81i-102720	10/27/2020	**66,000**	*< 0.025 U*	*< 0.95 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81I-031821	03/18/2021	**42,000**	*< 0.025 U*	*< 2.0 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81I-092221	09/22/2021	**130,000**	*< 0.025 U*	*< 2.0 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81I-121421	12/14/2021	**58,000**	*< 0.025*	*< 4.0*

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Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81I-031422	03/14/2022	**14,000 J-**	*< 0.060 U*	*< 2.0 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81I-060622	06/06/2022	**34,000**	*< 0.060 U*	*< 2.0 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81I-110722	11/07/2022	**610,000**	*< 0.060 U*	*< 10 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81I-030623	03/06/2023	**95,000**	*< 0.060 U*	*< 2.0 UJ*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81I-061323	06/13/2023	**27,000**	*< 0.060*	*< 2.0*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81I-082123	08/21/2023	**19,000**	*< 0.060 U*	*< 2.0 U*
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-81I-121023	12/10/2023	**39,000**	*< 0.20 U*	*< 2.0 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-102519	10/25/2019	**119,000**	*< 0.44 U*	*< 4.8 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-021720	02/17/2020	**98,600**	**0.52**	*< 48 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-052620	05/26/2020	**82,000**	**0.51**	*< 48 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-081920	08/19/2020	**67,000**	**0.52**	*< 95 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-102920	10/29/2020	**82,000**	**0.70**	*< 4.8 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-032421	03/24/2021	**1,300,000**	*< 0.44 U*	*< 20 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-092221	09/22/2021	**76,000**	**0.67**	*< 20 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-121321	12/13/2021	**72,000**	**0.65**	*< 20*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-031722	03/17/2022	**90,000**	*< 0.060 U*	*< 20 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-060822	06/08/2022	**84,000**	**0.37 j**	*< 2.0 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-110922	11/09/2022	**45,000**	**1.5**	*< 10 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-030823	03/08/2023	**41,000**	**5.7**	*< 10 UJ*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-061623	06/16/2023	**35,000**	**1.3 J+**	*< 20*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-082223	08/22/2023	**53,000**	**0.67**	*< 4.0 U*
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10I-121223	12/12/2023	**58,000**	**0.90**	*< 4.0 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15i-110519	11/05/2019	**115,000**	*< 0.44 U*	*< 48 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	Pa-15i-021820	02/18/2020	**249,000**	*< 0.025 U*	*< 48 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15I-051820	05/18/2020	**270,000**	*< 0.025 U*	*< 48 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15I-081720	08/17/2020	**250,000**	*< 0.025 U*	*< 48 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15i-102620	10/26/2020	**230,000**	*< 2.5 U*	*< 4.8 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15I-031721	03/17/2021	**260,000**	*< 0.025 U*	*< 20 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15I-092121	09/21/2021	**360,000**	*< 0.25 U*	*< 20 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15I-121421	12/14/2021	**340,000**	*< 0.025*	*< 20*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15I-031422	03/14/2022	**250,000 J-**	*< 0.060 U*	*< 20 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15I-060622	06/06/2022	**300,000**	*< 0.60 U*	*< 20 U*

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Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15I-110722	11/07/2022	**850,000**	**0.29**	*< 10 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15I-030823	03/08/2023	**290,000**	*< 0.060 U*	*< 10 UJ*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15I-061323	06/13/2023	**290,000**	**0.073 j**	*< 4.0*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15I-082123	08/21/2023	**41,000**	*< 0.060 U*	*< 10 U*
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15I-121123	12/11/2023	**4,400**	*< 0.20 U*	*< 10 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-110419	11/04/2019	**319,000**	*< 0.44 U*	*< 48 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-021220	02/12/2020	**186,000**	**0.22**	*< 48 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-051920	05/19/2020	**150,000**	**0.073 j**	*< 48 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16I-081920	08/19/2020	**95,000 J+**	**0.13 j**	*< 48 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-102720	10/27/2020	**69,000**	**0.31**	*< 4.8 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16I-031721	03/17/2021	**140,000**	*< 0.025 U*	*< 20 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16I-092121	09/21/2021	**50,000**	*< 0.25 U*	*< 10 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16I-121421	12/14/2021	**95,000**	**0.21**	*< 20*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16I-031522	03/15/2022	**110,000 J-**	*< 0.060 U*	*< 10 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16I-060722	06/07/2022	**110,000**	*< 0.30 U*	*< 20 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16I-110822	11/08/2022	**270,000**	*< 0.060 U*	*< 4.0 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16I-030823	03/08/2023	**530,000**	*< 0.060 U*	*< 20 UJ*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16I-061423	06/14/2023	**120,000 J-**	*< 0.060*	*< 4.0*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16I-082223	08/22/2023	**35,000**	*< 0.060 U*	*< 4.0 U*
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16I-121123	12/11/2023	**12,000**	*< 0.20 U*	*< 4.0 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-102819	10/28/2019	**73,600**	**0.57 j**	*< 48 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-021920	02/19/2020	**65,400**	**24**	*< 190 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17IR-052120	05/21/2020	**60,000**	**0.16 j**	*< 48 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-082420	08/24/2020	**62,000**	*< 0.025 U*	*< 95 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-102820	10/28/2020	**50,000**	*< 0.20 U*	*< 4.8 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17IR-032321	03/23/2021	**43,000**	**0.15 J**	*< 20 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17IR-092221	09/22/2021	**35,000**	*< 0.025 U*	*< 20 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17IR-121321	12/13/2021	**30,000**	*< 0.025*	*< 20*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17IR-031622	03/16/2022	**23,000**	**0.072 j**	*< 20 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17IR-060822	06/08/2022	**26,000**	*< 0.70 U*	*< 10 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17IR-110822	11/08/2022	**13,000**	*< 0.60 U*	*< 10 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17IR-030823	03/08/2023	**25,000**	*< 0.060 U*	*< 10 UJ*

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Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17IR-061423	06/14/2023	**15,000**	**0.073 j**	*< 4.0*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17IR-082223	08/22/2023	**8,800 J**	*< 0.060 U*	*< 2.0 U*
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17IR-121123	12/11/2023	**20,000**	*< 0.20 U*	*< 4.0 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-103019	10/30/2019	**161,000**	*< 0.44 U*	*< 48 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-021820	02/18/2020	**170,000**	**0.50 J+**	*< 190 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-052220	05/22/2020	**160,000**	**0.28**	*< 48 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-082120	08/21/2020	**150,000 J+**	**0.30**	*< 95 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-110220	11/02/2020	**170,000**	*< 0.025 U*	*< 48 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-040121	04/01/2021	**130,000**	**0.43**	*< 20 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-092321	09/23/2021	**100,000**	*< 0.025 U*	*< 20 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-121521	12/15/2021	**93,000**	**0.29**	*< 20*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-031522	03/15/2022	**89,000 J-**	**0.28 J+**	*< 20 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-060922	06/09/2022	**87,000**	*< 0.70 U*	*< 20 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-110822	11/08/2022	**75,000 J-**	**0.28**	*< 20 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-030723	03/07/2023	**83,000 j**	*< 0.060 U*	*< 20 UJ*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-061623	06/16/2023	**31,000**	*< 0.29 U*	*< 40*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-082423	08/24/2023	**71,000**	**0.13 j**	*< 20 U*
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32I-121323	12/13/2023	**32,000**	**0.15 j**	*< 4.0 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-102919	10/29/2019	**243,000**	*< 0.44 U*	*< 4.8 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-021220	02/12/2020	**99,200**	**0.18 j**	*< 48 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44I-051920	05/19/2020	**53,000**	*< 0.025 U*	*< 95 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44I-081820	08/18/2020	**76,000**	*< 0.025 U*	*< 48 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-102720	10/27/2020	**34,000**	*< 0.025 U*	*< 4.8 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44I-031621	03/16/2021	**60,000**	*< 0.025 U*	**7.1 J**
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44I-092321	09/23/2021	**39,000**	*< 0.025 U*	**390**
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44I-121421	12/14/2021	**51,000**	*< 0.025*	**130**
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44I-031522	03/15/2022	**23,000 J-**	*< 0.060 U*	**270**
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44I-060622	06/06/2022	**47,000**	*< 0.30 U*	**66**
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44I-110722	11/07/2022	**75,000**	*< 0.060 U*	*< 2.0 U*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44I-030623	03/06/2023	**15,000**	*< 0.060 U*	*< 2.0 UJ*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44I-061323	06/13/2023	**20,000**	*< 0.060*	*< 2.0*
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44I-082223	08/22/2023	**370,000**	*< 0.060 U*	*< 10 U*

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Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44I-121023	12/10/2023	**1,900**	*< 0.060 U*	*< 4.0 U*
Deep	MWA-11i(d)	Well Distal from BW and GCCs	MWA-11I(D)-110519	11/05/2019	**1,640,000**	*< 0.44 U*	*< 48 U*
Deep	MWA-11i(d)	Well Distal from BW and GCCs	MWA-11i(d)-022620	02/26/2020	**1,480,000**	**2.4**	*< 0.95 U*
Deep	MWA-11i(d)	Well Distal from BW and GCCs	MWA-11i(d)-052920	05/29/2020	**1,600,000**	*< 0.025 U*	*< 9.5 U*
Deep	MWA-11i(d)	Well Distal from BW and GCCs	MWA-11i(d)-082720	08/27/2020	**1,500,000**	**0.071 j**	*< 0.95 U*
Deep	MWA-11i(d)	Well Distal from BW and GCCs	MWA-11i(d)-110420	11/04/2020	**1,500,000**	**0.64 J**	*< 4.8 U*
Deep	MWA-11i(d)	Well Distal from BW and GCCs	MWA-11I(D)-040221	04/02/2021	**180,000**	**0.039 J**	*< 20 U*
Deep	MWA-11i(d)	Well Distal from BW and GCCs	MWA-11I(D)-092421	09/24/2021	**1,700,000**	**0.047 j**	*< 10 U*
Deep	MWA-11i(d)	Well Distal from BW and GCCs	MWA-11I(D)-121621	12/16/2021	**1,500,000**	*< 0.025*	*< 20*
Deep	MWA-11i(d)	Well Distal from BW and GCCs	MWA-11I(D)-031722	03/17/2022	**2,200,000**	**0.060 j**	*< 20 U*
Deep	MWA-11i(d)	Well Distal from BW and GCCs	MWA-11I(D)-060922	06/09/2022	**2,000,000**	*< 0.70 U*	*< 20 U*
Deep	MWA-11i(d)	Well Distal from BW and GCCs	MWA-11I(D)-111022	11/10/2022	**1,600,000**	**1.1**	*< 40 U*
Deep	MWA-11i(d)	Well Distal from BW and GCCs	MWA-11I(D)-030923	03/09/2023	**1,200,000**	*< 0.060 U*	*< 20 UJ*
Deep	MWA-11i(d)	Well Distal from BW and GCCs	MWA-11I(D)-061623	06/16/2023	**450,000**	**7.0**	*< 10*
Deep	MWA-11i(d)	Well Distal from BW and GCCs	MWA-11I(D)-082323	08/23/2023	**830,000**	*< 0.060 U*	*< 10 U*
Deep	MWA-11i(d)	Well Distal from BW and GCCs	MWA-11I(D)-121323	12/13/2023	**780,000**	*< 0.060 U*	*< 10 U*
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(d)-102419	10/24/2019	**25,900,000**	**0.57 j**	**100,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(D)-021320	02/13/2020	**27,700,000**	**0.58 j**	**91,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31I(D)-052020	05/20/2020	**27,000,000**	*< 0.44 U*	**100,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31I(D)-081920	08/19/2020	**23,000,000**	**0.52 j**	**89,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(d)-103020	10/30/2020	**30,000,000**	*< 0.44 U*	**91,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31I(D)-032421	03/24/2021	**27,000,000**	*< 0.44 U*	**91,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31I(D)-092321	09/23/2021	**29,000,000**	*< 0.44 U*	**91,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31I(D)-121521	12/15/2021	**18,000,000**	*< 0.44*	**99,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31I(D)-031622	03/16/2022	**20,000,000**	*< 0.44 U*	**97,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31I(D)-060722	06/07/2022	**28,000,000**	**0.32 j**	**100,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31I(D)-111022	11/10/2022	**19,000,000**	**0.55 J**	**97,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31I(D)-030923	03/09/2023	**25,000,000**	**0.58 j**	**97,000 J-**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31I(D)-061523	06/15/2023	**16,000,000**	*< 1.0 U*	**86,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31I(D)-082323	08/23/2023	**27,000,000**	*< 0.44 U*	**98,000**
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31I(D)-121123	12/11/2023	**14,000,000**	*< 0.44 U*	**28,000**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-102419	10/24/2019	**20,100,000**	*< 0.44 U*	**3,300**

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Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride ug/L*	*Chlorobenzene ug/L*	*Perchlorate ug/L*
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-021420	02/14/2020	**22,300,000**	*< 2.0 U*	**3,500**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-052120	05/21/2020	**21,000,000**	*< 0.44 U*	**5,700**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-082020	08/20/2020	**24,000,000**	*< 0.44 U*	**6,400**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56d-102920	10/29/2020	**22,000,000**	*< 0.44 U*	**7,100**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-032521	03/25/2021	**26,000,000**	*< 4.4 U*	**6,500**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-092421	09/24/2021	**21,000,000**	*< 0.44 U*	**8,100**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-121621	12/16/2021	**18,000,000**	*< 0.44*	**8,400**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-031722	03/17/2022	**19,000,000**	*< 0.44 U*	**9,200**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-060822	06/08/2022	**18,000,000**	*< 0.30 U*	**11,000**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-110922	11/09/2022	**15,000,000**	*< 0.44 U*	**12,000**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-030923	03/09/2023	**16,000,000**	*< 0.44 U*	**15,000 J-**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-061523	06/15/2023	**15,000,000**	*< 4.4*	**13,000**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-082323	08/23/2023	**14,000,000**	*< 4.4 U*	**14,000**
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-121223	12/12/2023	**14,000,000**	*< 4.4 U*	**14,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-102519	10/25/2019	**18,900,000**	*< 0.44 U*	**61,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-021320	02/13/2020	**21,100,000**	*< 0.44 U*	**49,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-052120	05/21/2020	**19,000,000**	*< 0.44 U*	**46,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-082020	08/20/2020	**20,000,000**	*< 0.44 U*	**45,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58d-102920	10/29/2020	**20,000,000**	*< 0.44 U*	**44,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-032621	03/26/2021	**29,000,000 J-**	*< 0.44 U*	**43,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-092421	09/24/2021	**23,000,000**	*< 0.44 U*	**43,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-121621	12/16/2021	**23,000,000**	*< 4.4*	**38,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-031722	03/17/2022	**26,000,000**	*< 4.4 U*	**44,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-060822	06/08/2022	**23,000,000**	*< 0.30 U*	**47,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-110922	11/09/2022	**19,000,000**	*< 0.44 UJ*	**49,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-030923	03/09/2023	**22,000,000**	*< 2.2 U*	**49,000 J-**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-061523	06/15/2023	**19,000,000**	*< 2.2*	**50,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-082323	08/23/2023	**20,000,000**	*< 2.2 U*	**50,000**
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-121223	12/12/2023	**19,000,000**	*< 2.2 U*	**50,000**
Deep	PA-18d	GCC1 & Proximal Wells	PA-18D-032921	03/29/2021	**110,000**	**81**	*< 20 U*
Deep	PA-18d	GCC1 & Proximal Wells	PA-18D-030923	03/09/2023	**50,000**	*< 0.44 U*	*< 20 UJ*
Deep	PA-18d	GCC1 & Proximal Wells	PA-18D-061623	06/16/2023	**27,000 J-**	*< 0.44*	*< 40*

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Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride ug/L*	*Chlorobenzene ug/L*	*Perchlorate ug/L*
Deep	PA-18d	GCC1 & Proximal Wells	PA-18D-082123	08/21/2023	**80,000**	*< 0.44 U*	*< 10 U*
Deep	PA-18d	GCC1 & Proximal Wells	PA-18D-121223	12/12/2023	**54,000**	*< 0.44 U*	*< 10 U*
Deep	PA-19d	GCC2	Pa-19d-110619	11/06/2019	**94,000**	**9,300 J-**	*< 48 U*
Deep	PA-19d	GCC2	Pa-19d-022620	02/26/2020	**111,000**	**8,300**	*< 48 U*
Deep	PA-19d	GCC2	PA-19d-052920	05/29/2020	**140,000**	**8,200**	*< 48 U*
Deep	PA-19d	GCC2	PA-19D-082620	08/26/2020	**160,000**	**5,200**	*< 95 U*
Deep	PA-19d	GCC2	PA-19d-110520	11/05/2020	**180,000**	**3,800**	*< 48 U*
Deep	PA-19d	GCC2	PA-19D-040521	04/05/2021	**340,000**	**7,100**	*< 20 U*
Deep	PA-19d	GCC2	PA-19D-092321	09/23/2021	**320,000 J**	*< 0.44 R*	*< 20 U*
Deep	PA-19d	GCC2	PA-19D-121621	12/16/2021	**330,000**	**2,700 J**	*< 200*
Deep	PA-19d	GCC2	PA-19D-031722	03/17/2022	**340,000**	**2,600**	*< 20 U*
Deep	PA-19d	GCC2	PA-19D-060922	06/09/2022	**360,000**	**3,200**	*< 20 U*
Deep	PA-19d	GCC2	PA-19D-111022	11/10/2022	**280,000**	**2,500**	*< 20 U*
Deep	PA-19d	GCC2	PA-19D-030923	03/09/2023	**350,000**	**12,000 J**	*< 10 UJ*
Deep	PA-19d	GCC2	PA-19D-061623	06/16/2023	**320,000**	**9,000**	*< 40*
Deep	PA-19d	GCC2	PA-19D-082423	08/24/2023	**320,000**	**6,600**	*< 20 U*
Deep	PA-19d	GCC2	PA-19D-121323	12/13/2023	**340,000**	**7,600**	*< 10 U*
Deep	PA-20d	GCC3	PA-20d-110719	11/07/2019	**570,000**	**41**	**56 J+**
Deep	PA-20d	GCC3	Pa-20d-022420	02/24/2020	**789,000**	**39**	**58**
Deep	PA-20d	GCC3	PA-20d-052120	05/21/2020	**840,000**	**40**	**46**
Deep	PA-20d	GCC3	PA-20D-082520	08/25/2020	**800,000 J+**	**31**	**58**
Deep	PA-20d	GCC3	PA-20d-110320	11/03/2020	**840,000**	**37 J**	**61**
Deep	PA-20d	GCC3	PA-20D-032521	03/25/2021	**1,100,000**	**23**	**76**
Deep	PA-20d	GCC3	PA-20D-092221	09/22/2021	**1,100,000**	**24**	**99**
Deep	PA-20d	GCC3	PA-20D-121521	12/15/2021	**1,000,000**	**23**	*< 100*
Deep	PA-20d	GCC3	PA-20D-031722	03/17/2022	**1,200,000**	**12**	**140**
Deep	PA-20d	GCC3	PA-20D-060922	06/09/2022	**1,100,000**	**18**	*< 20 U*
Deep	PA-20d	GCC3	PA-20D-111022	11/10/2022	**1,000,000**	**9.3**	*< 20 U*
Deep	PA-20d	GCC3	PA-20D-030923	03/09/2023	**1,100,000**	**13**	*< 10 UJ*
Deep	PA-20d	GCC3	PA-20D-061523	06/15/2023	**880,000**	**14**	*< 20*
Deep	PA-20d	GCC3	PA-20D-082323	08/23/2023	**840,000**	**20**	*< 10 U*
Deep	PA-20d	GCC3	PA-20D-121223	12/12/2023	**810,000**	**18**	*< 10 U*

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Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride ug/L*	*Chlorobenzene ug/L*	*Perchlorate ug/L*
Deep	PA-21d	GCC3	Pa-21d-110719	11/07/2019	**347,000**	**27,000**	**2,400**
Deep	PA-21d	GCC3	Pa-21d-022620	02/26/2020	**463,000**	**38,000**	**1,300**
Deep	PA-21d	GCC3	PA-21D-052120	05/21/2020	**420,000**	**49,000 J**	**1,200**
Deep	PA-21d	GCC3	PA-21D-082520	08/25/2020	**360,000**	**36,000**	**1,300**
Deep	PA-21d	GCC3	PA-21d-110420	11/04/2020	**370,000**	**40,000 J+**	**1,300**
Deep	PA-21d	GCC3	PA-21D-040121	04/01/2021	**430,000**	**47,000**	*< 20 U*
Deep	PA-21d	GCC3	PA-21D-092421	09/24/2021	**350,000**	**39,000 J**	**1,800**
Deep	PA-21d	GCC3	PA-21D-121521	12/15/2021	**320,000**	**49,000 J**	**1,200**
Deep	PA-21d	GCC3	PA-21D-031722	03/17/2022	**360,000**	**16,000**	**1,100**
Deep	PA-21d	GCC3	PA-21D-060922	06/09/2022	**360,000**	**27,000**	*< 20 U*
Deep	PA-21d	GCC3	PA-21D-111022	11/10/2022	**290,000**	**15,000**	*< 100 U*
Deep	PA-21d	GCC3	PA-21D-030923	03/09/2023	**340,000**	**30,000 J**	**110 J-**
Deep	PA-21d	GCC3	PA-21D-061623	06/16/2023	**330,000**	**23,000**	*< 100*
Deep	PA-21d	GCC3	PA-21D-082323	08/23/2023	**330,000**	**26,000**	*< 100 U*
Deep	PA-21d	GCC3	PA-21D-121223	12/12/2023	**340,000**	**11,000**	*< 10 U*
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-102419	10/24/2019	**10,200,000**	*< 0.44 U*	**54,000**
Deep	PA-22d	GCC4 & Proximal Wells	Pa-22d-022120	02/21/2020	**9,190,000**	*< 0.44 U*	**38,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-052020	05/20/2020	**9,800,000**	*< 0.44 U*	**40,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22D-082120	08/21/2020	**9,200,000 J+**	*< 0.44 U*	**38,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-110320	11/03/2020	**9,100,000**	*< 0.44 U*	**37,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22D-032421	03/24/2021	**8,200,000**	*< 0.44 U*	**33,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22D-092221	09/22/2021	**7,400,000**	*< 0.44 U*	**26,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22D-121521	12/15/2021	**7,100,000**	*< 0.44*	**24,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22D-031622	03/16/2022	**8,000,000**	*< 0.44 U*	**23,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22D-060822	06/08/2022	**7,300,000**	*< 0.30 U*	**22,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22D-110922	11/09/2022	**6,000,000**	*< 0.44 U*	**17,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22D-030823	03/08/2023	**6,000,000**	*< 0.44 U*	**17,000 J-**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22D-061523	06/15/2023	**5,600,000**	*< 0.44*	**15,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22D-082323	08/23/2023	**4,800,000**	*< 0.44 U*	**13,000**
Deep	PA-22d	GCC4 & Proximal Wells	PA-22D-121223	12/12/2023	**5,300,000**	*< 0.44 U*	**13,000**
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-110519	11/05/2019	**12,500**	**2.8**	*< 0.95 U*
Deep	PA-23d	GCC5 & Proximal Wells	Pa-23d-021920	02/19/2020	**5,690,000**	*< 0.44 U*	*< 0.95 U*

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Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride ug/L*	*Chlorobenzene ug/L*	*Perchlorate ug/L*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-052020	05/20/2020	**12,000,000**	**1.3 j**	*< 4.8 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23D-082020	08/20/2020	**22,000,000**	*< 0.44 U*	*< 4.8 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-102920	10/29/2020	**27,000,000**	*< 0.44 U*	*< 0.95 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23D-032521	03/25/2021	**16,000,000**	*< 0.44 U*	*< 1,000 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23D-092321	09/23/2021	**17,000,000**	*< 0.44 U*	*< 100 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23D-121421	12/14/2021	**5,700,000**	*< 0.44*	*< 50*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23D-031622	03/16/2022	**89,000**	*< 0.44 U*	*< 2.0 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23D-060722	06/07/2022	**9,700,000**	*< 0.30 U*	*< 100 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23D-111022	11/10/2022	**6,900,000**	*< 0.44 U*	*< 200 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23D-030823	03/08/2023	**17,000,000**	*< 0.44 U*	*< 200 UJ*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23D-061523	06/15/2023	**25,000,000**	*< 0.44*	*< 400*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23D-082223	08/22/2023	**29,000,000**	*< 0.44 U*	*< 400 U*
Deep	PA-23d	GCC5 & Proximal Wells	PA-23D-121123	12/11/2023	**30,000,000**	*< 0.44 U*	*< 300 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-110619	11/06/2019	**42,300,000**	*< 0.44 U*	*< 48 U*
Deep	PA-24d	GCC5 & Proximal Wells	Pa-24d-022020	02/20/2020	**41,500,000**	*< 0.44 U*	*< 48 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-051920	05/19/2020	**46,000,000**	*< 0.44 U*	*< 48 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24D-082020	08/20/2020	**43,000,000**	*< 0.44 U*	*< 19 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-102920	10/29/2020	**44,000,000**	*< 0.44 U*	*< 4.8 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24D-031821	03/18/2021	**44,000,000**	*< 0.44 U*	*< 200 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24D-092221	09/22/2021	**38,000,000**	*< 0.44 U*	*< 100 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24D-121521	12/15/2021	**35,000,000**	*< 0.44*	*< 200*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24D-031622	03/16/2022	**38,000,000**	*< 0.44 U*	*< 200 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24D-060722	06/07/2022	**35,000,000**	*< 0.30 U*	*< 400 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24D-111022	11/10/2022	**32,000,000**	*< 0.44 U*	*< 200 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24D-030823	03/08/2023	**33,000,000**	*< 0.44 U*	*< 400 UJ*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24D-061523	06/15/2023	**33,000,000**	*< 0.44*	*< 400*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24D-082223	08/22/2023	**31,000,000**	*< 0.44 U*	*< 400 U*
Deep	PA-24d	GCC5 & Proximal Wells	PA-24D-121123	12/11/2023	**31,000,000**	*< 0.44 U*	*< 200 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25d-110519	11/05/2019	**1,100**	*< 0.44 U*	*< 0.95 U*
Deep	PA-25d	GCC6 & Proximal Wells	Pa-25d-021820	02/18/2020	**22,100**	*< 0.025 U*	*< 0.95 U*
Deep	PA-25d	GCC6 & Proximal Wells	Pa-25d-051820	05/18/2020	**23,000**	*< 0.025 U*	*< 0.95 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25D-081820	08/18/2020	**24,000**	*< 0.025 U*	*< 9.5 U*

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Deep	PA-25d	GCC6 & Proximal Wells	PA-25d-102720	10/27/2020	**20,000**	*< 0.20 U*	*< 0.95 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25D-031821	03/18/2021	**20,000**	*< 0.025 U*	*< 2.0 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25D-092121	09/22/2021	**24,000**	*< 0.025 U*	*< 2.0 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25D-121421	12/14/2021	**23,000**	*< 0.025*	*< 2.0*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25D-031422	03/14/2022	**18,000 J-**	*< 0.060 U*	*< 2.0 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25D-060722	06/07/2022	**23,000**	*< 0.060 U*	*< 2.0 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25D-110722	11/07/2022	**34,000**	*< 0.060 U*	*< 2.0 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25D-030823	03/08/2023	**11,000 J+**	*< 0.060 U*	*< 2.0 UJ*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25D-061323	06/13/2023	**10,000**	*< 0.060*	*< 2.0*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25D-082223	08/22/2023	**24,000**	*< 0.060 U*	*< 2.0 U*
Deep	PA-25d	GCC6 & Proximal Wells	PA-25D-121123	12/11/2023	**12,000**	*< 0.060 U*	*< 2.0 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26d-110419	11/04/2019	**7,400**	*< 0.44 U*	*< 0.95 U*
Deep	PA-26d	GCC6 & Proximal Wells	Pa-26d-021320	02/13/2020	**46,000**	**0.71**	*< 0.95 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-051820	05/18/2020	**48,000**	*< 0.025 U*	*< 0.95 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-081920	08/19/2020	**48,000**	*< 0.025 U*	*< 9.5 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26d-102820	10/28/2020	**52,000**	*< 0.025 U*	**1.1 j**
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-031621	03/16/2021	**37,000**	*< 0.025 U*	*< 2.0 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-092321	09/23/2021	**60,000**	*< 0.025 U*	*< 2.0 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-121321	12/13/2021	**62,000**	*< 0.025*	*< 4.0*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-031522	03/15/2022	**72,000 J-**	*< 0.060 U*	*< 2.0 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-060722	06/07/2022	**63,000**	*< 0.060 U*	*< 2.0 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-110822	11/08/2022	**6,500**	*< 0.060 U*	*< 2.0 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-030823	03/08/2023	**69,000**	*< 0.060 U*	*< 2.0 UJ*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-061423	06/14/2023	**67,000 J**	*< 0.060*	*< 2.0*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-082223	08/22/2023	**74,000**	*< 0.060 U*	*< 2.0 U*
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-121123	12/11/2023	**27,000**	*< 0.060 U*	*< 2.0 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27d-102519	10/25/2019	**1,150,000**	*< 0.44 U*	*< 4.8 U*
Deep	PA-27d	GCC1 & Proximal Wells	Pa-27d-021420	02/14/2020	**824,000**	**0.84 j**	*< 48 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27D-052120	05/21/2020	**870,000**	*< 0.44 U*	*< 48 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27D-081820	08/18/2020	**810,000 J+**	**0.52 j**	*< 95 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27d-110420	11/04/2020	**1,100,000**	**3.5 J**	*< 19 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27D-032321	03/23/2021	**710,000 J-**	*< 0.44 U*	*< 20 U*

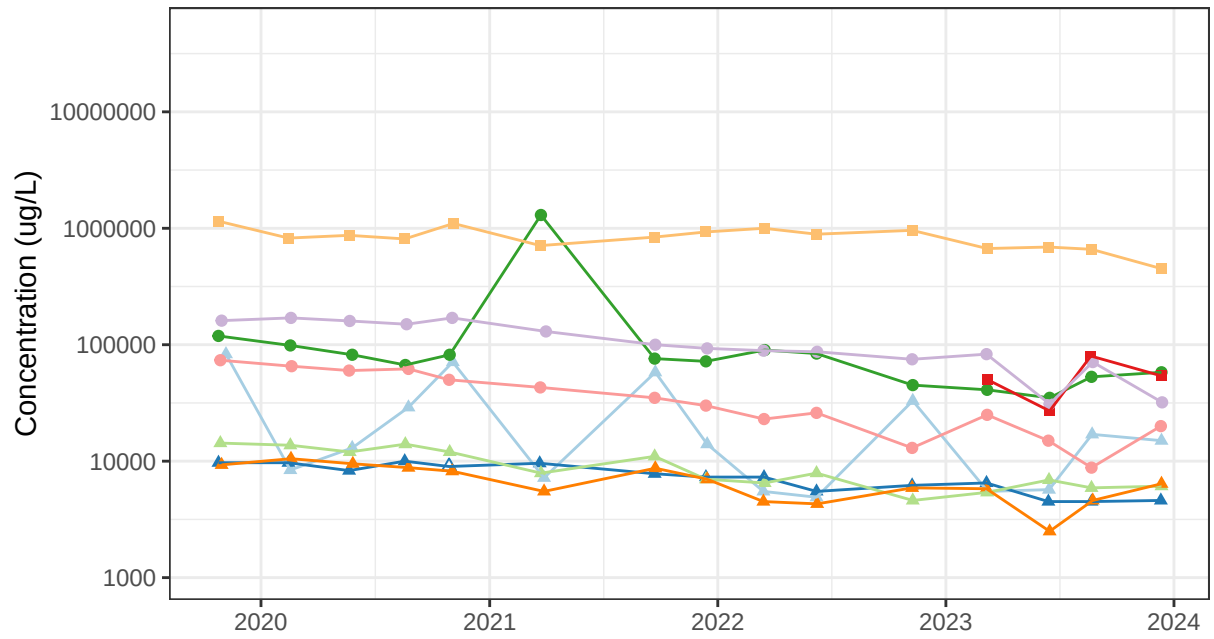
Appendix D
Prior Groundwater Monitoring Plan Data Table
Arkema Quarter 4, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Cluster	Sample ID	Date	*Chloride ug/L*	*Chlorobenzene ug/L*	*Perchlorate ug/L*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27D-092221	09/22/2021	**840,000**	*< 0.44 U*	*< 20 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27D-121321	12/13/2021	**930,000**	*< 0.44*	*< 20*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27D-031622	03/16/2022	**1,000,000**	*< 0.44 U*	*< 20 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27D-060822	06/08/2022	**890,000**	*< 0.30 U*	*< 20 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27D-110822	11/08/2022	**960,000**	*< 0.44 U*	*< 10 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27D-030823	03/08/2023	**670,000**	*< 0.44 U*	*< 20 UJ*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27D-061423	06/14/2023	**690,000**	*< 0.44*	*< 20*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27D-082223	08/22/2023	**660,000**	*< 0.44 U*	*< 10 U*
Deep	PA-27d	GCC1 & Proximal Wells	PA-27D-121223	12/12/2023	**450,000**	*< 0.44 U*	*< 10 U*
Deep	PA-30d	GCC2	PA-30d-103119	10/31/2019	**170,000**	**4,900 J-**	*< 48 U*
Deep	PA-30d	GCC2	Pa-30d-022520	02/25/2020	**207,000**	**5,700**	*< 190 U*
Deep	PA-30d	GCC2	PA-30d-052120	05/21/2020	**280,000**	**5,800**	*< 48 U*
Deep	PA-30d	GCC2	PA-30D-082720	08/27/2020	**320,000**	**5,800**	*< 95 U*
Deep	PA-30d	GCC2	PA-30d-110520	11/05/2020	**440,000**	**4,700**	*< 48 U*
Deep	PA-30d	GCC2	PA-30D-040221	04/02/2021	**56,000**	**4,600**	*< 100 U*
Deep	PA-30d	GCC2	PA-30D-092421	09/24/2021	**540,000**	*< 0.44 R*	*< 20 U*
Deep	PA-30d	GCC2	PA-30D-121621	12/16/2021	**490,000**	**3,500**	*< 200*
Deep	PA-30d	GCC2	PA-30D-031722	03/17/2022	**490,000**	**4,700**	*< 20 U*
Deep	PA-30d	GCC2	PA-30D-060922	06/09/2022	**460,000**	**6,600**	*< 20 U*
Deep	PA-30d	GCC2	PA-30D-111022	11/10/2022	**270,000**	**26,000**	*< 20 U*
Deep	PA-30d	GCC2	PA-30D-030923	03/09/2023	**300,000**	**24,000**	*< 20 UJ*
Deep	PA-30d	GCC2	PA-30D-061623	06/16/2023	**310,000**	**19,000**	*< 40*
Deep	PA-30d	GCC2	PA-30D-082423	08/24/2023	**320,000**	**20,000**	*< 20 U*
Deep	PA-30d	GCC2	PA-30D-121323	12/13/2023	**320,000**	**22,000**	*< 10 U*

Notes:
Bolded values indicate concentrations above the Reportable Detection Limit.
< = Compound not detected. Reportable detection limit shown.
µg/L = micrograms per liter

Qualifiers:
j = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The concentration of the sample is considered to be biased high, as the associated QC results exceed the upper control limits.
J- = The concentration of the sample is considered to be biased low, as the associated QC results are outside the lower control limits.
U = Compound not detected based on quality assurance review.
UJ = Analyte was analyzed for, but not detected. The detection limit is a quantitative estimate.
R = Rejected. Quality control indicates that the data are unusable (compound may or not be present).

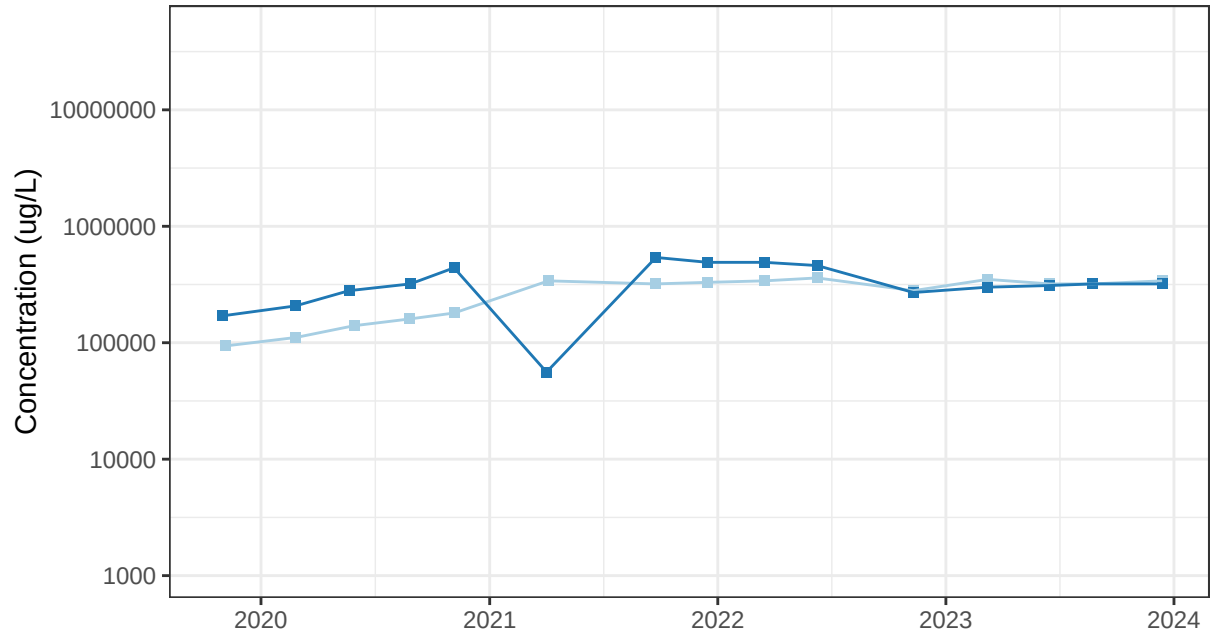
Chloride in GCC1 & Proximal Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA-63
- PA-03
- PA-04
- PA-10I
- PA-17IR
- PA-18D
- PA-27D
- PA-31
- PA-32I

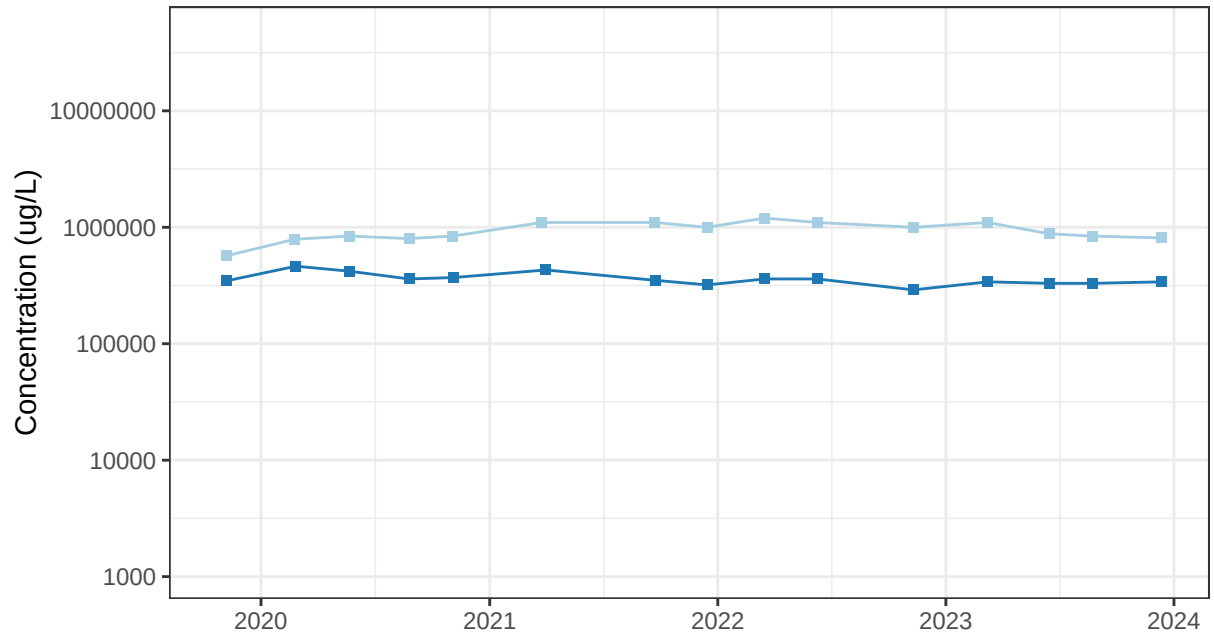
Chloride in GCC2



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- PA-19D
- PA-30D

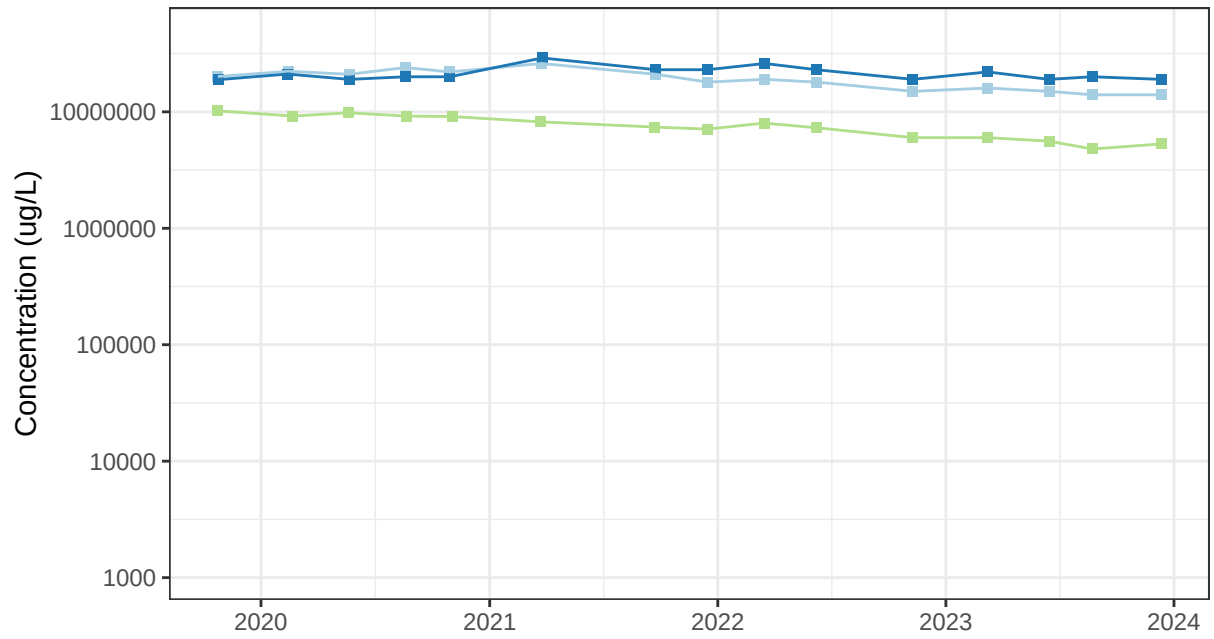
Chloride in GCC3



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- PA-20D
- PA-21D

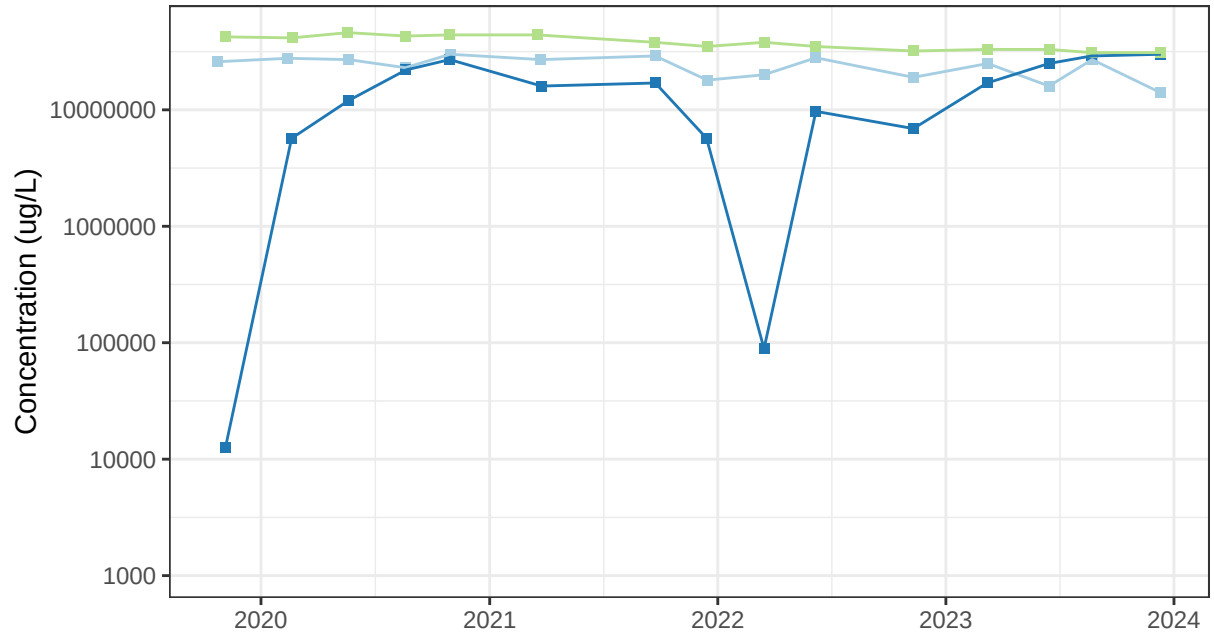
Chloride in GCC4 & Proximal Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−56D
- MWA−58D
- PA−22D

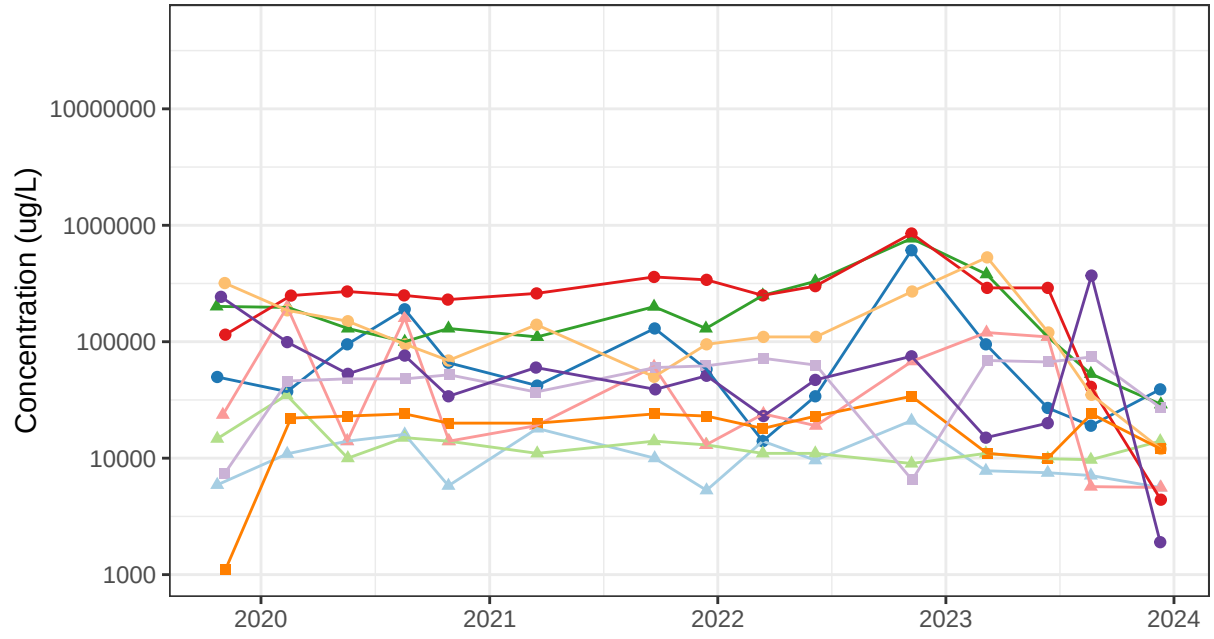
Chloride in GCC5 & Proximal Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

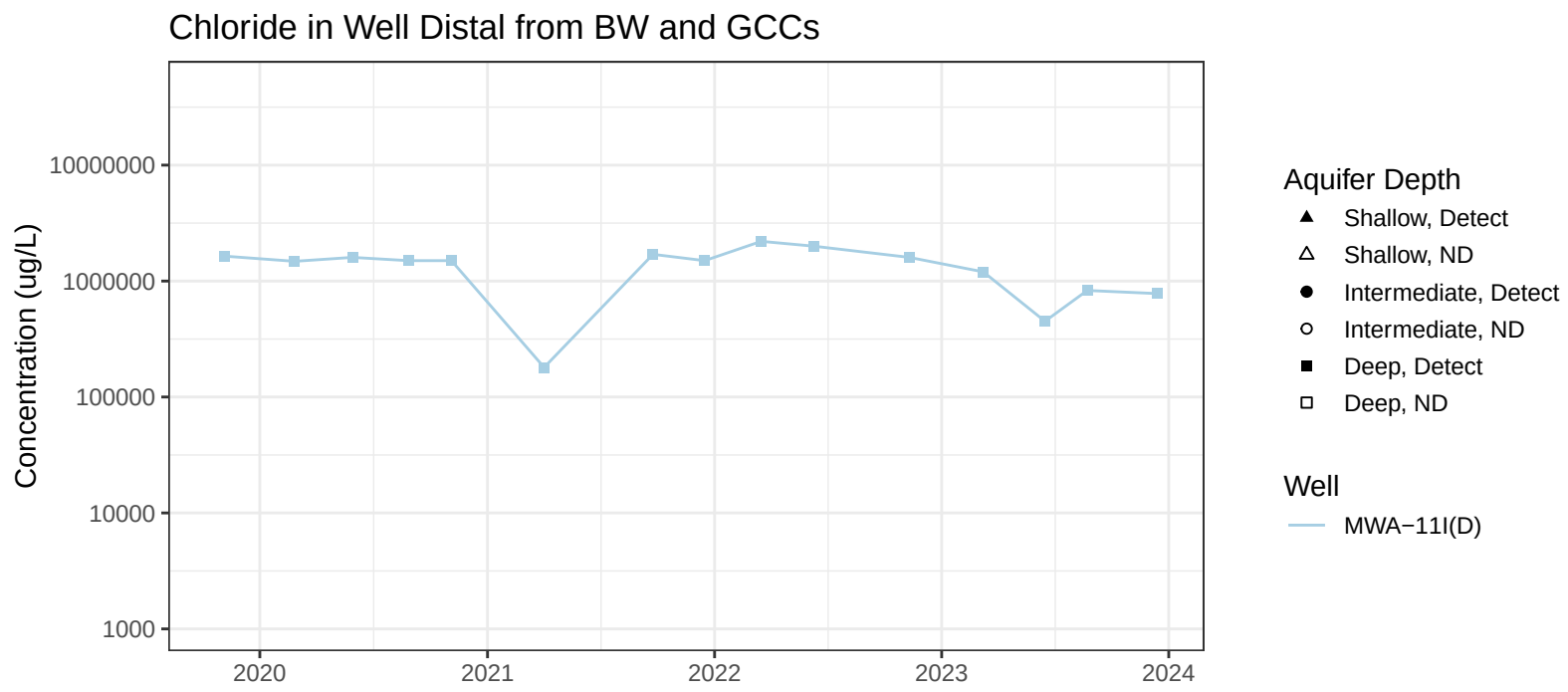
Well
- MWA−31I(D)
- PA−23D
- PA−24D

Chloride in GCC6 & Proximal Wells

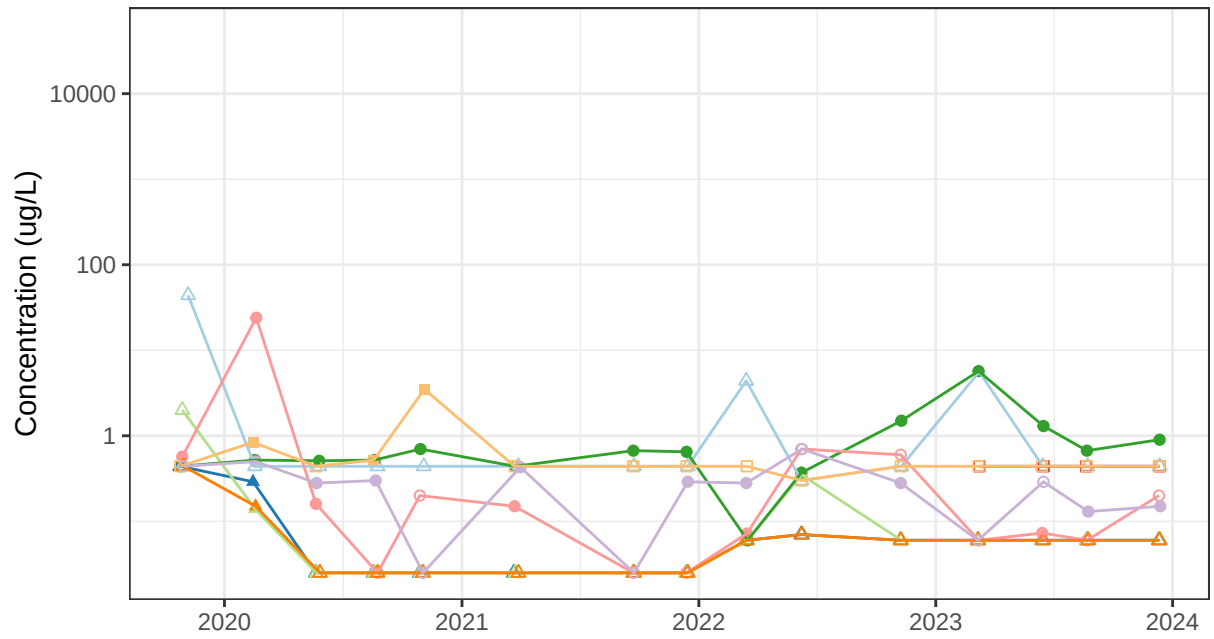


Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−41
- MWA−81I
- MWA−82
- PA−08
- PA−09
- PA−15I
- PA−16I
- PA−25D
- PA−26D
- PA−44I


Chloride in Well Distal from BW and GCCs
Concentration (ug/L)
10000000
1000000
100000
10000
1000
2020
2021
2022
2023
2024
Aquifer Depth
Shallow, Detect
Shallow, ND
Intermediate, Detect
Intermediate, ND
Deep, Detect
Deep, ND
Well
MWA−11I(D)

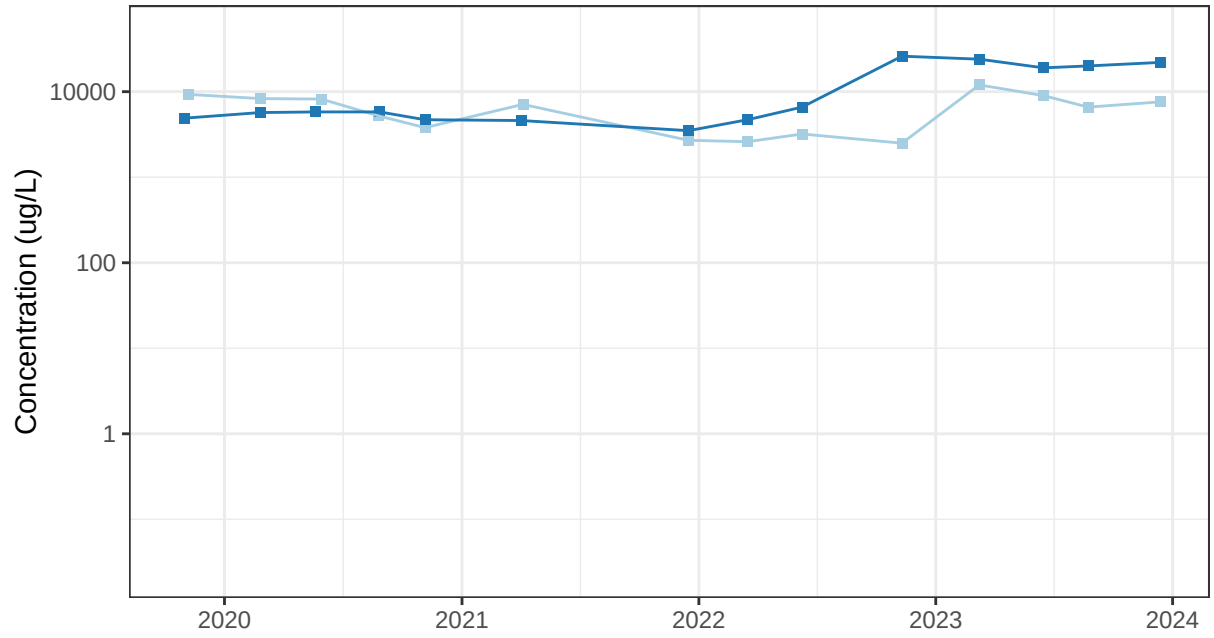
Chlorobenzene in GCC1 & Proximal Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−63
- PA−03
- PA−04
- PA−10I
- PA−17IR
- PA−18D
- PA−27D
- PA−31
- PA−32I

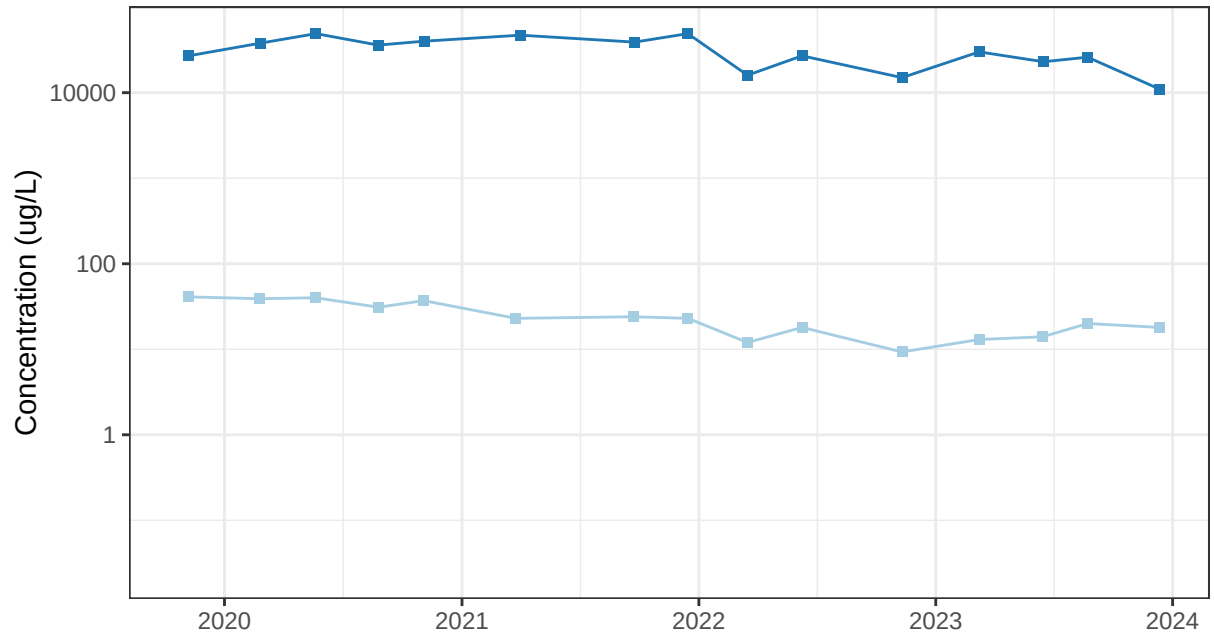
Chlorobenzene in GCC2



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- PA−19D
- PA−30D

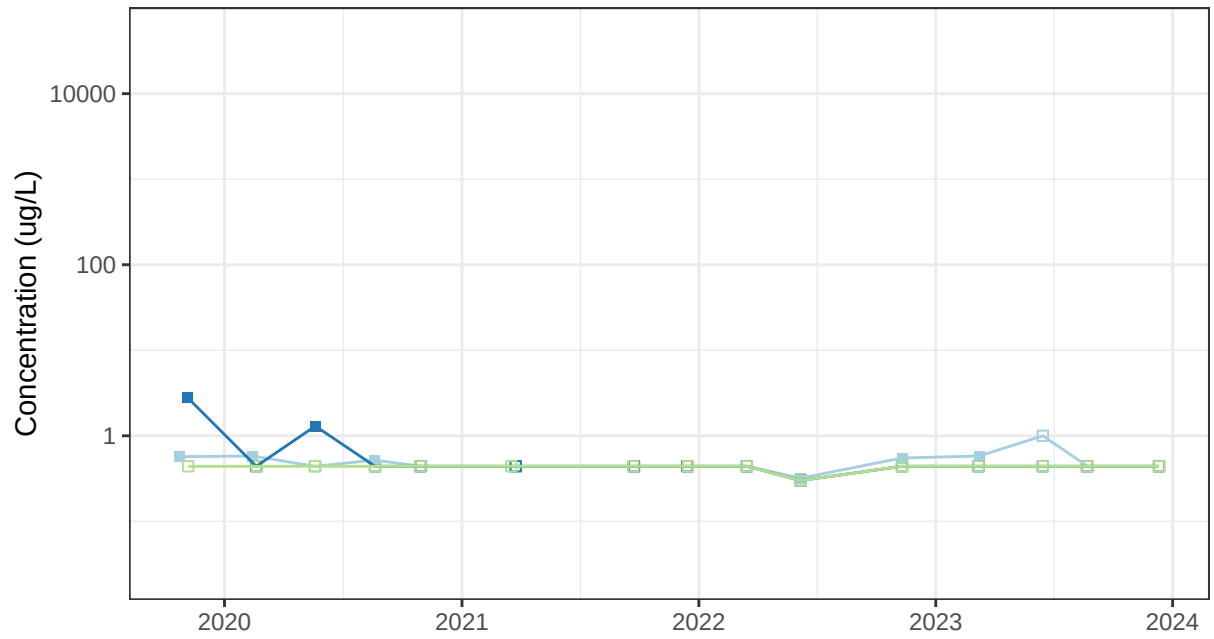
Chlorobenzene in GCC3



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- PA−20D
- PA−21D

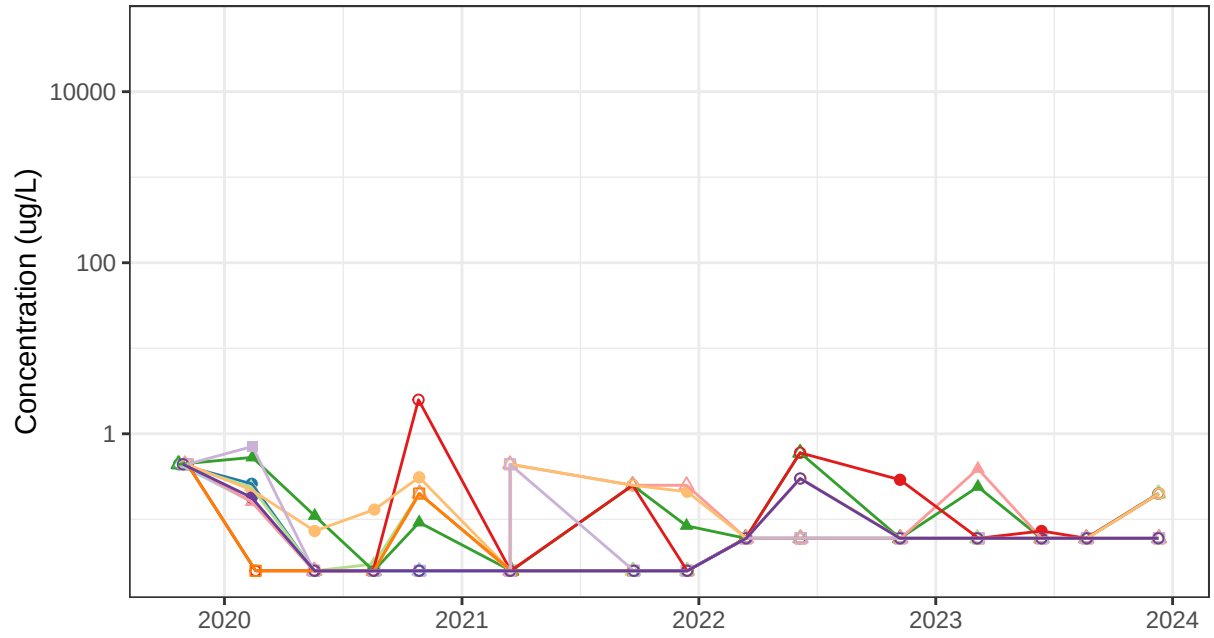
Chlorobenzene in GCC5 & Proximal Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−31I(D)
- PA−23D
- PA−24D

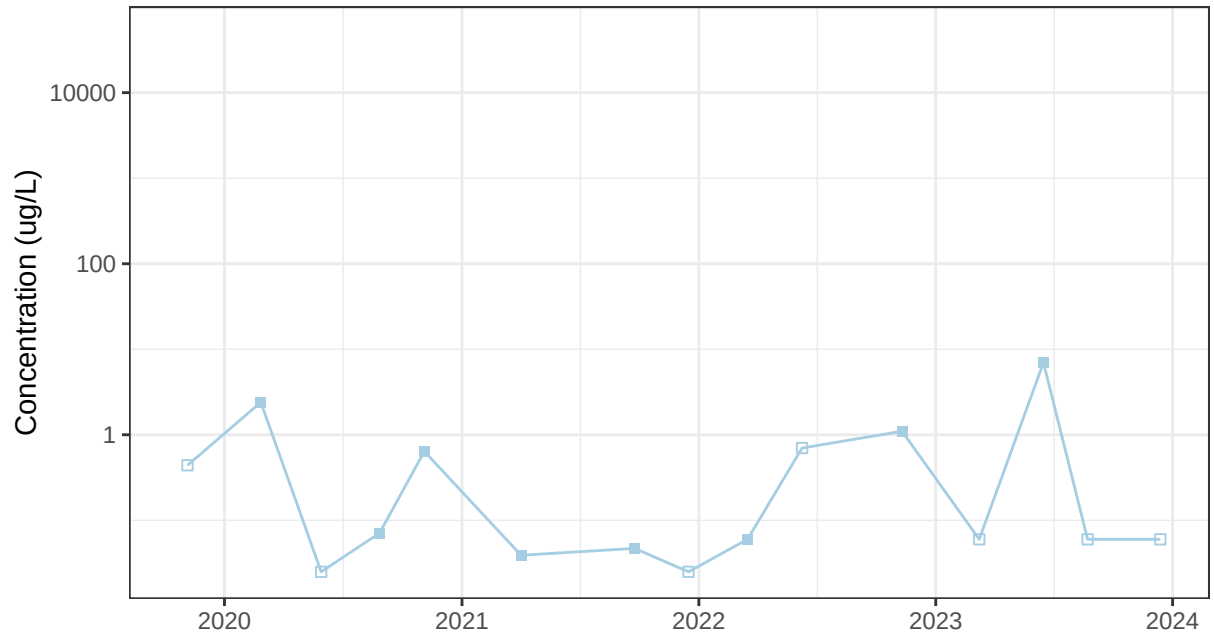
Chlorobenzene in GCC6 & Proximal Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−41
- MWA−81I
- MWA−82
- PA−08
- PA−09
- PA−15I
- PA−16I
- PA−25D
- PA−26D
- PA−44I

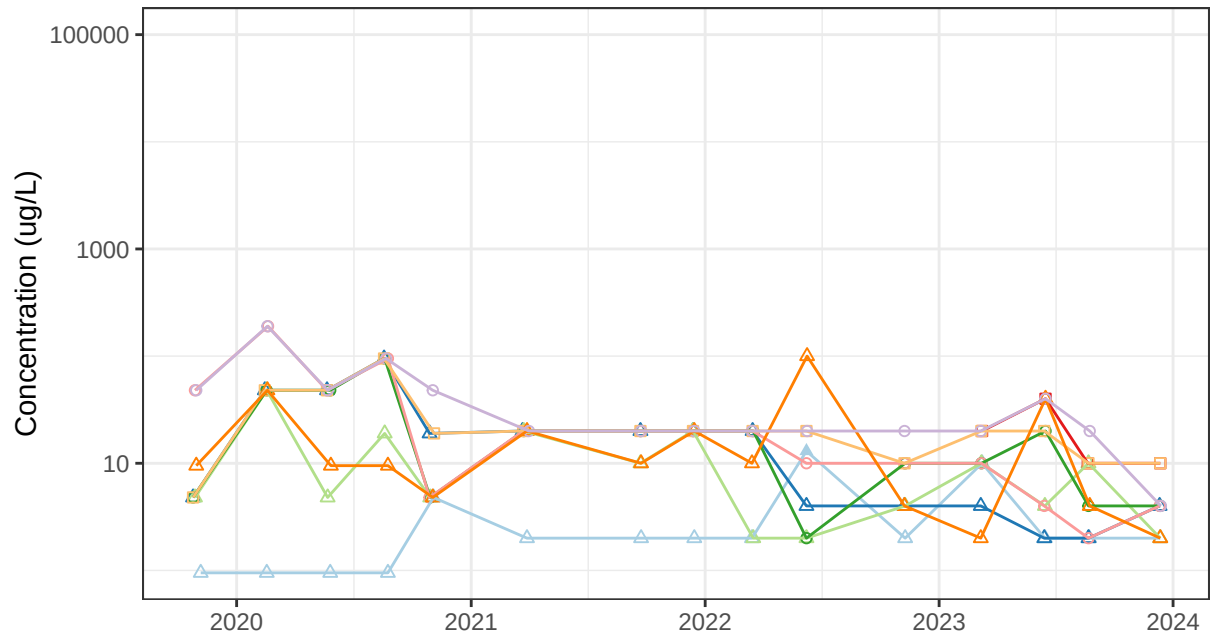
Chlorobenzene in Well Distal from BW and GCCs



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−11I(D)

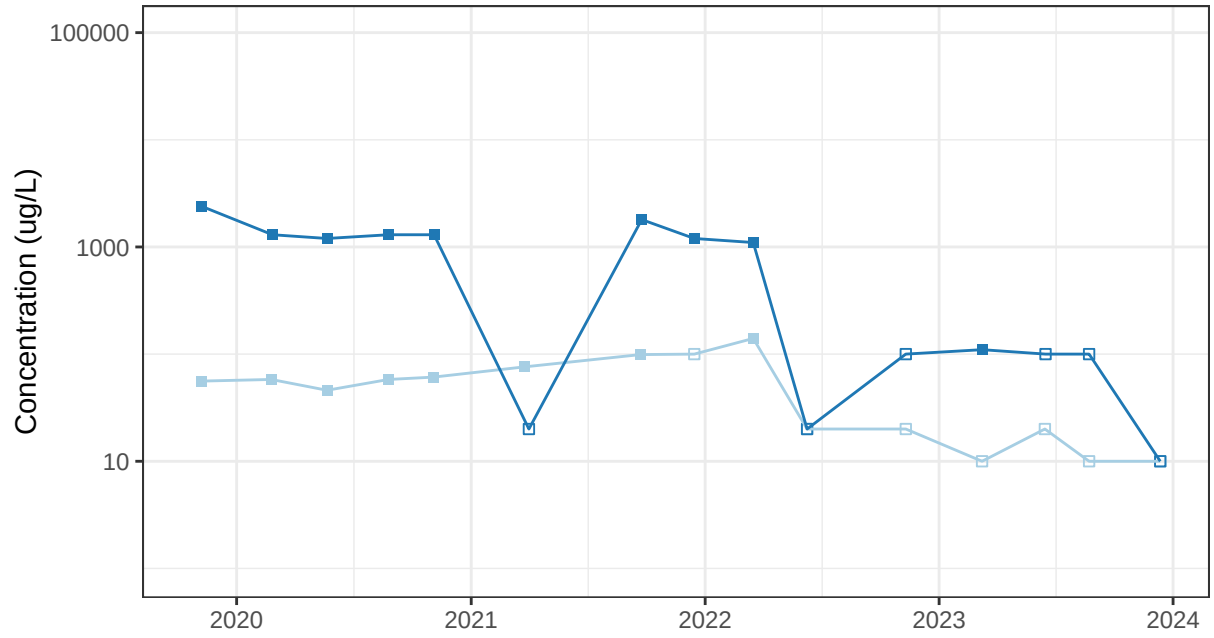
Perchlorate in GCC1 & Proximal Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−63
- PA−03
- PA−04
- PA−10I
- PA−17IR
- PA−18D
- PA−27D
- PA−31
- PA−32I

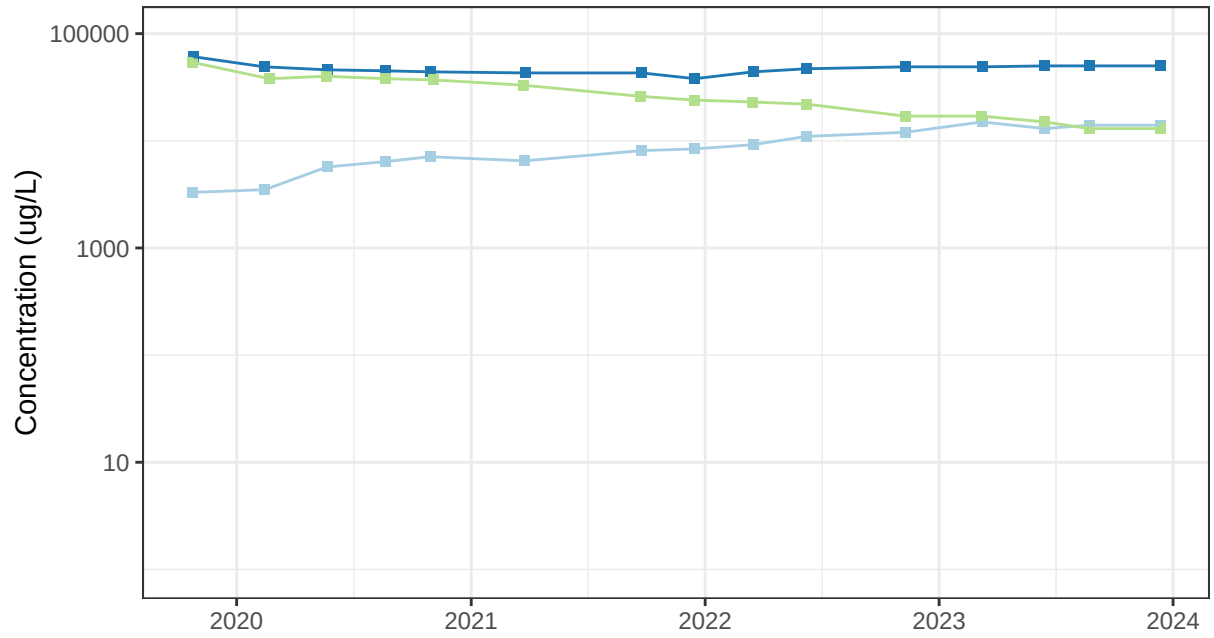
Perchlorate in GCC3



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- PA−20D
- PA−21D

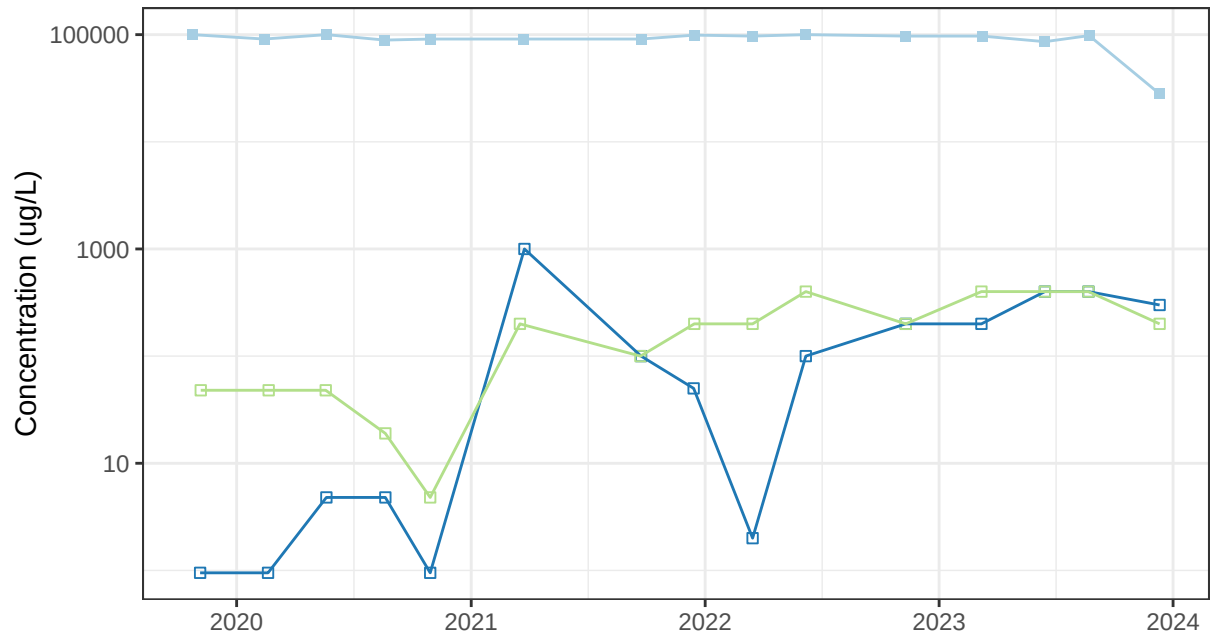
Perchlorate in GCC4 & Proximal Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−56D
- MWA−58D
- PA−22D

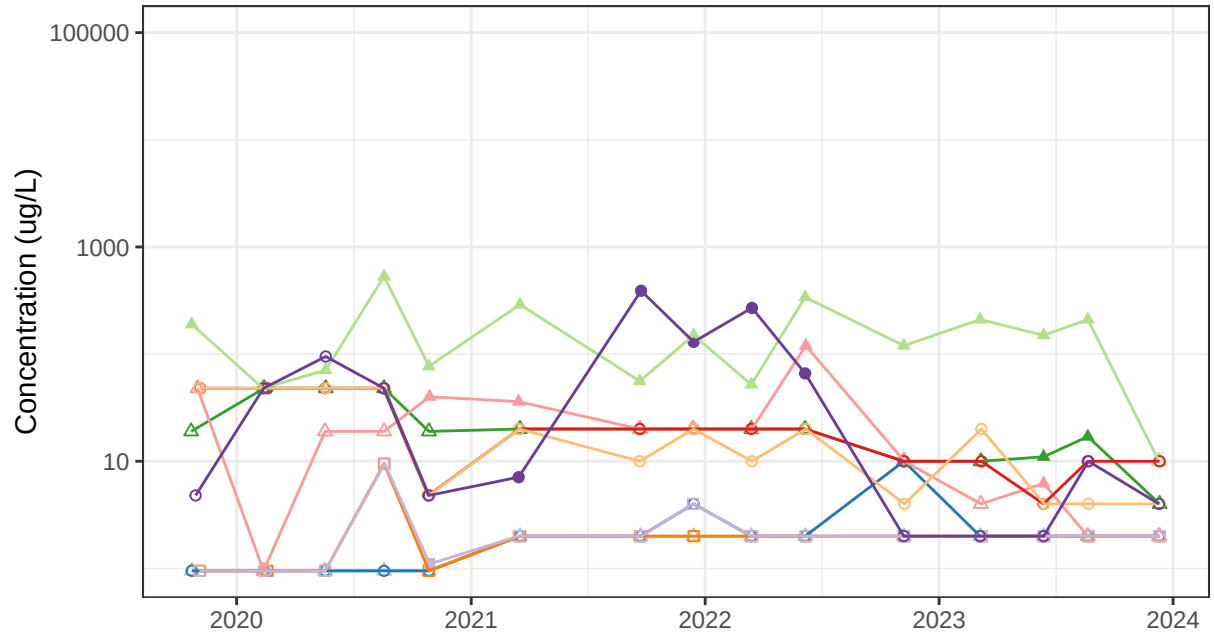
Perchlorate in GCC5 & Proximal Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−31I(D)
- PA−23D
- PA−24D

Perchlorate in GCC6 & Proximal Wells



Aquifer Depth
- Shallow, Detect
- Shallow, ND
- Intermediate, Detect
- Intermediate, ND
- Deep, Detect
- Deep, ND

Well
- MWA−41
- MWA−81I
- MWA−82
- PA−08
- PA−09
- PA−15I
- PA−16I
- PA−25D
- PA−26D
- PA−44I

APPENDIX E HISTORICAL DATA TABLE

Appendix E
Historical Data Table
Arkema Quarter 4, 2023, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Sample ID	Date	2,4'-DDD	4,4'-DDD	2,4'-DDE	4,4'-DDE	2,4'-DDT	4,4'-DDT	Total of 2,4' and 4,4'-DDD, -DDE, -DDT	Chloride	Chlorobenzene	Chromium (VI)	Perchlorate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Shallow	MWA-2	GAMWA210297	1/2/1997		< 0.1 U		< 0.1 U		**0.12**	**0.12 T**		< 5 U		
Shallow	MWA-2	GAMWA210397	3/12/1997		< 0.1 UJ		< 0.1 UJ		< 0.1 UJ	< 0.1 UJT		**7**		
Shallow	MWA-2	GAMWA210697	6/24/1997		< 0.1 UJ		< 0.1 UJ		< 0.1 UJ	< 0.1 UJT		**6,000**		
Shallow	MWA-2	GAMWA210997	9/30/1997		**0.17 J**		< 0.1 UJ		< 0.1 UJ	**0.17 JT**		**9,000**		
Shallow	MWA-2	GW059801	5/28/1998		**0.25 J**		< 0.04 U		**0.33 J**	**0.58 JT**	**10,400**	**4**		
Shallow	MWA-2	GW019907	1/27/1999		**0.32**		**0.04**		**0.18**	**0.54 T**	**41,100 T**	**94**		
Shallow	MWA-2	GW029906	4/27/1999		**0.8**		< 0.04 U		**0.6**	**1.4 T**	**16,800**	**970 J**		
Shallow	MWA-2	GW039907	8/24/1999		**0.7**		< 0.4 UJ		< 0.4 UJ	**0.7 T**	**33,800**	**4,400**		
Shallow	MWA-2	GW049905	11/16/1999		**0.39 J**		< 0.04 UJ		< 0.24 U	**0.39 JT**	**41,700**	**2,100**		
Shallow	MWA-2	GW010111	3/29/2001		**0.57**		< 0.1 U		< 0.1 U	**0.57 T**	**158,000 J**	**4,300**		
Shallow	MWA-2	GW020106	6/12/2001		**0.4**		**0.055**		< 0.05 UJ	**0.455 T**	**384,000**	**4,600**		
Shallow	MWA-2	GW04100205	4/10/2002		**0.41**		< 0.099 U		< 0.099 U	**0.41 T**	**1,400,000**	**27,000**		
Shallow	MWA-2	GW-060903-01	6/9/2003		< 1.70 U		< 1.70 U		< 2.80 U	< 2.8 UT	**981,000**	**13,700**		**1,400**
Shallow	MWA-2	MWA-2-111004	11/10/2004		< 0.500 UJ		< 0.500 UJ		< 0.500 UJ	< 0.5 UJT		**30,200**		
Shallow	MWA-2	MWA-2-031005	3/10/2005		< 2.50 UJ		< 2.50 UJ		< 2.50 UJ	< 2.5 UJT		**15,400**		
Shallow	MWA-2	MWA-2-062205	6/22/2005		**3.35**		< 0.500 UJ		< 0.500 UJ	**3.35 T**		**12,200**		
Shallow	MWA-2	MWA-2-091505	9/15/2005		**0.543 J**		< 0.184 U		**0.0789 J**	**0.8089 JT**		**21,900**		
Shallow	MWA-2	MWA-2-102705	10/27/2005		**0.477**		**0.0965**		< 0.236 UJ	**0.5735 T**		**23,500**		
Shallow	MWA-2	MWA-2-122005	12/20/2005		**0.312**		< 0.239 UJ		< 0.239 UJ	**0.312 T**		**16,200**		
Shallow	MWA-2	MWA-2-011306	1/13/2006		**0.510**		< 0.0971 UJ		< 0.0971 UJ	**0.51 T**		**4**		
Shallow	MWA-2	MWA-2-032906	3/29/2006		**0.240**		< 0.0952 UJ		**0.190**	**0.43 T**		**4,050**		
Shallow	MWA-2	MWA-2-040407	4/4/2007		**0.292**		< 0.287 U		< 0.191 U	**0.292 A**	**376,000**	**2,570**		**73.8**
Shallow	MWA-2	MWA-2-080609	8/6/2009		< 0.286 U		< 0.286 U		**0.191**	**0.191 A**	**340,000**	**18,200**		**3.9**
Shallow	MWA-15R	GW010117	3/30/2001		**37**		< 10 U		**450**	**487 T**	**1960,000 J**	**260,000**		
Shallow	MWA-15R	GW020121	6/15/2001		**7.4**		< 0.96 U		**73 J**	**80.4 JT**	**1,560,000**	**210,000**		
Shallow	MWA-15R	GW04160201	4/16/2002		**25**		**4.2 J**		**75 J**	**104 JT**	**407,000**	**48,000**		
Shallow	MWA-15R	GW-061003-04	6/10/2003		**28.4 J**		< 3.40 U		**113**	**141 JT**	**388,000**	**13,300**		**350**
Shallow	MWA-15R	MWA-15R-100203	10/2/2003									**27,200**		
Shallow	MWA-15R	MWA-15R-111403	11/14/2003									**163,000**		
Shallow	MWA-15R	MWA-15R-011304	1/13/2004									**64,400**		
Shallow	MWA-15R	MWA-15R-013004	1/30/2004									**24,600**		
Shallow	MWA-15R	MWA-15R-030204	3/2/2004									**2,450**		
Shallow	MWA-15R	MWA-15R-111004	11/10/2004		**27.7**		< 5.00 UJ		**86.2**	**113 T**		**154,000**		
Shallow	MWA-15R	MWA-15R-031005	3/10/2005		**79.7**		< 25.0 UJ		**534**	**613.7 T**		**97,000**		
Shallow	MWA-15R	MWA-15R-062205	6/22/2005		**40.9**		**9.88**		**193**	**243.78 T**		**87,700**		
Shallow	MWA-15R	MWA-15R-091605	9/16/2005		**73.2**		**11.2 J**		**619 J**	**703 JT**		**240,000**		
Shallow	MWA-15R	MWA-15R-122105	12/21/2005		**10.1**		**1.53**		**86.5**	**98.13 T**		**217,000**		
Shallow	MWA-15R	MWA-15R-033006	3/30/2006		**124**		**24**		**458**	**606 T**		**72,900**		
Shallow	MWA-15R	MWA-15R-041707	4/17/2007		**48.3 J**		**7.71**		**207**	**263 JA**	**129,000**	**34**		
Shallow	MWA-15R	MWA-15R-081909	8/19/2009		**111**		**21.9**		**702**	**835 A**	**156,000**	**23,500**	< 25 UJ	
Shallow	MWA-15R	MWA-15R-090309	9/3/2009		**377**		**52.1**		**5,210**	**5,640 A**				
Shallow	MWA-18	GW010105	3/27/2001						**0.046 J**	**0.046 JT**	**1,200,000**	**41**		
Shallow	MWA-18	GW020110	6/13/2001		**0.015 J**		< 0.0094 U		< 0.026 U	**0.015 JT**	**894,000 J**	**34**	< 50 UJ	
Shallow	MWA-18	GW04040203	4/4/2002		< 0.0096 U		< 0.0096 U		< 0.019 U	< 0.019 UT	**2,210,000**	**8**		
Shallow	MWA-18	GW-060603-03	6/6/2003		< 0.0170 U		< 0.0170 U		< 0.0280 U	< 0.028 UT	**1,410,000**	< 3.06 U		< 25 U
Shallow	MWA-18	MWA-18-050505	5/5/2005								**612,000**		**833**	
Shallow	MWA-18	MWA-18-071405	7/14/2005										**676**	
Shallow	MWA-18	MWA-18	8/3/2005		< 0.0500 U		< 0.0500 U		< 0.0500 U	< 0.05 UT		**0.580**		
Shallow	MWA-18	MWA-18-081605	8/16/2005										**248**	
Shallow	MWA-18	MWA-18-091205	9/12/2005								**410,000**		**1,180**	**3.4**
Shallow	MWA-18	MWA-18-120805	12/8/2005										**5.90 J**	
Shallow	MWA-18	MWA-18-011006	1/10/2006										**30.0**	
Shallow	MWA-18	MWA-18-021306	2/13/2006										< 4.55 U	
Shallow	MWA-18	MWA-18-072606	7/26/2006										**3.4**	
Shallow	MWA-18	MWA-18-041107	4/11/2007		< 0.0971 U		< 0.0971 U		< 0.0971 U	< 0.0971 UA	**233,000**	**1.33**	**2.2 J**	< 8.0 U

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Aquifer	Well ID	Sample ID	Date	2,4'-DDD	4,4'-DDD	2,4'-DDE	4,4'-DDE	2,4'-DDT	4,4'-DDT	Total of 2,4' and 4,4'-DDD, -DDE, -DDT	Chloride	Chlorobenzene	Chromium (VI)	Perchlorate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Shallow	MWA-18	MWA-18-081009	8/10/2009		**0.0155**		**0.00671 J**		**0.00789 J**	**0.0301 JA**	**270,000**	**0.930 J**	**340 J**	< 4 U
Shallow	MWA-19	GW010104	3/27/2001		< 0.02 UJ		< 0.02 UJ		**0.095 J**	**0.095 JT**	**5,540,000**	< 0.5 U		
Shallow	MWA-19	GW020112	6/13/2001		< 0.0099 U		< 0.0099 U		< 0.016 U	< 0.016 UT	**12,700,000 J**	< 0.5 U	< 50 UJ	
Shallow	MWA-19	GW04040204	4/4/2002		< 0.0097 U		< 0.0097 U		**0.1**	**0.1 T**	**13,100,000**	< 0.5 U		
Shallow	MWA-19	GW-060603-04	6/6/2003		**0.0935**		< 0.0170 U		**0.23**	**0.324 T**	**5,180,000**	< 0.64 U		< 82 U
Shallow	MWA-19	MWA-19-050605	5/6/2005								**2,100,000**		**2,680**	
Shallow	MWA-19	MWA-19-071305	7/13/2005										**159**	
Shallow	MWA-19	MWA-19	8/3/2005		**0.114**		< 0.0500 U		**0.576**	**0.69 T**		**3.14**		
Shallow	MWA-19	MWA-19-081705	8/17/2005										**407**	
Shallow	MWA-19	MWA-19-091305	9/13/2005								**1,240,000**		**824**	< 1 U
Shallow	MWA-19	MWA-19-120805	12/8/2005										**101**	
Shallow	MWA-19	MWA-19-010906	1/9/2006										**33.2**	
Shallow	MWA-19	MWA-19-021006	2/10/2006										**12.1**	
Shallow	MWA-19	MWA-19-072606	7/26/2006										**56.8**	
Shallow	MWA-19	MWA-19-040907	4/9/2007		**0.0743 J**		< 0.0966 U		**0.242**	**0.316 JA**	**737,000**	**1.79**	**11.3**	< 80.0 U
Shallow	MWA-19	MWA-19-081009	8/10/2009		**0.183 J**		**0.175 J**		**1.14**	**1.5 JA**	**406,000**	**0.390 J**	**500 J**	< 40 U
Shallow	MWA-20	GW010103	3/27/2001						**0.088 J**	**0.088 JT**	**2,810,000 T**	**2,700**		
Shallow	MWA-20	GW020114	6/13/2001						**0.052 J**	**0.052 JT**	**1,780,000 J**	**1,100**	**59.5**	
Shallow	MWA-20	GW04090204	4/9/2002								**1,135,000 T**	**1,900**		
Shallow	MWA-20	GW-060503-03	6/5/2003		**0.0688 J**				**0.213 J**	**0.282 JT**	**1,500,000**	**215**		
Shallow	MWA-20	MWA-20-050905	5/9/2005										**436**	
Shallow	MWA-20	MWA-20-071305	7/13/2005										**74.1**	
Shallow	MWA-20	MWA-20	8/4/2005		< 0.0500 U		< 0.0500 U		< 0.0500 U	< 0.05 UT		**1,540**		
Shallow	MWA-20	MWA-20-081505	8/15/2005										**676**	
Shallow	MWA-20	MWA-20-090705	9/7/2005										**573**	
Shallow	MWA-20	MWA-20-121205	12/12/2005										**9.67 J**	
Shallow	MWA-20	MWA-20-011006	1/10/2006										**52.5**	
Shallow	MWA-20	MWA-20-020906	2/9/2006										**43.8**	
Shallow	MWA-20	MWA-20-072506	7/25/2006										**14.36 J**	
Shallow	MWA-20	MWA-20-041107	4/11/2007		< 0.0485 U		< 0.0485 U		**0.0692 J**	**0.0692 J**	**583,000**	**1,500 J**	**8.6**	< 33.9 U
Shallow	MWA-20	MWA-20-081709	8/17/2009		< 0.00952 U		< 0.00952 U		**0.00836 J**	**0.00836 JA**	**164,000**	**1,780**	**67 J**	< 40 U
Shallow	MWA-22	GW020122	6/15/2001		**0.83**		< 0.096 U		**0.15**	**0.98 T**	**4,870,000**	**38**		
Shallow	MWA-22	GW04110203	4/11/2002		< 0.099 U		< 0.099 U		< 0.099 U	< 0.099 UT	**5,430,000**	**310**		
Shallow	MWA-22	GW-061003-02	6/10/2003		< 0.13 U		< 0.0170 UJ		< 0.348 U	< 0.348 UT	**6,210,000**	**128**		
Shallow	MWA-22	MWA-22	8/1/2005		**0.115**		< 0.0500 U		**1.29**	**1.405 T**		**6,460**		
Shallow	MWA-22	MWA-22-041607	4/16/2007		**0.133**		< 0.0976 U		< 0.0976 U	**0.133 A**	**4,200,000**	**538**	**103**	
Shallow	MWA-22	MWA-22-081909	8/19/2009		< 0.144 U		< 0.0962 U		< 0.0962 U	< 0.144 UA	**2,870,000**	**123**	**48 J**	< 40 U
Shallow	MWA-22	MWA-22-022119	2/21/2019	< 0.10 UJ	**0.026 J-**	< 0.10 UJ	**0.0060 J-**	< 0.10 UJ	< 0.010 UJ	**0.032**		**3,400**	< 13 UJ	< 48
Shallow	MWA-24	GW11150102	11/15/2001									< 2.5 U		
Shallow	MWA-24	GW04080201	4/8/2002								**408,000**			
Shallow	MWA-24	GW-060503-04	6/5/2003		< 0.232 U		< 0.0340 U		< 0.0560 U	< 0.232 UT	**583,000**			
Shallow	MWA-24	MWA-24-050505	5/5/2005								**529,000**		**52.8 J**	
Shallow	MWA-24	MWA-24-071205	7/12/2005										**54.1 J**	
Shallow	MWA-24	MWA-24-081105	8/11/2005										**35.5**	
Shallow	MWA-24	MWA-24-090705	9/7/2005										**20.3**	
Shallow	MWA-24	MWA-24-091405	9/14/2005											**30**
Shallow	MWA-24	MWA-24-120705	12/7/2005										**63.5**	
Shallow	MWA-24	MWA-24-011106	1/11/2006										**31.9**	
Shallow	MWA-24	MWA-24-020806	2/8/2006										**30.6**	
Shallow	MWA-24	MWA-24-072506	7/25/2006										**24**	
Shallow	MWA-24	MWA-24-040307	4/3/2007								**274,000**	**1.90 J**	**76.2**	**258 J**
Shallow	MWA-24	MWA-24-080509	8/5/2009								**237,000**	< 0.500 U	**86 J**	**17.9**
Shallow	MWA-29	GW04080204	4/8/2002		< 0.0096 U		< 0.0096 U		< 0.0096 U	< 0.0096 UT	**21,900,000**	< 0.5 U		
Shallow	MWA-29	GW-060403-06	6/4/2003		< 0.0170 UJ		< 0.0170 UJ		< 0.0280 UJ	< 0.028 UJT	**11,700,000**			< 110 U
Shallow	MWA-29	MWA-29-050905	5/9/2005								**9,100,000**		**14.1**	

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Aquifer	Well ID	Sample ID	Date	2,4'-DDD	4,4'-DDD	2,4'-DDE	4,4'-DDE	2,4'-DDT	4,4'-DDT	Total of 2,4' and 4,4'-DDD, -DDE, -DDT	Chloride	Chlorobenzene	Chromium (VI)	Perchlorate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Shallow	MWA-29	MWA-29-071805	7/18/2005										< 4.55 U	
Shallow	MWA-29	MWA-29-081205	8/12/2005										< 4.55 U	
Shallow	MWA-29	MWA-29-091205	9/12/2005								**12,600,000**		**107**	**4,800**
Shallow	MWA-29	MWA-29-120805	12/8/2005										**186**	
Shallow	MWA-29	MWA-29-010606	1/6/2006										**14.1**	
Shallow	MWA-29	MWA-29-020806	2/8/2006										**19.5**	
Shallow	MWA-29	MWA-29-072406	7/24/2006										< 20 U	
Shallow	MWA-29	MWA-29-041607	4/16/2007		< 0.0966 U		< 0.0966 U		< 0.0966 U	< 0.0966 UA	**9,710,000**		< 20 UJ	**243**
Shallow	MWA-29	MWA-29-080609	8/6/2009		< 0.00952 U		< 0.00952 U		< 0.00952 U	< 0.00952 UA	**3,750,000**		< 25 UJ	< 20 U
Shallow	MWA-30	GW04120203	4/12/2002		**0.18**		**0.021 J**		**0.012**	**0.213 JT**	**179,000,000**	< 0.5 U		
Shallow	MWA-30	GW-060403-08	6/4/2003		< 0.0170 UJ		< 0.0170 UJ		< 0.0280 UJ	< 0.028 UJT	**164,000,000**			**7,900**
Shallow	MWA-30	MWA-30-050605	5/6/2005								**104,000,000**		**3,040**	
Shallow	MWA-30	MWA-30-051005	5/10/2005											**621**
Shallow	MWA-30	MWA-30-071805	7/18/2005										**13.0**	
Shallow	MWA-30	MWA-30	8/3/2005		< 0.0500 U		< 0.0500 U		< 0.0500 U	< 0.05 UT		< 0.136 U		
Shallow	MWA-30	MWA-30-081705	8/17/2005										**6,270**	
Shallow	MWA-30	MWA-30-010606	1/6/2006										**32.8**	
Shallow	MWA-30	MWA-30-021006	2/10/2006										< 4.55 U	
Shallow	MWA-30	MWA-30-072606	7/26/2006										< 2 U	
Shallow	MWA-30	MWA-30-040507	4/5/2007		< 0.0962 U		< 0.0962 U		< 0.0962 U	< 0.0962 UA	**39,400,000**	**0.900**	**8.5 J**	< 80.0 U
Shallow	MWA-30	MWA-30-081009	8/10/2009		**0.148**		< 0.00943 U		< 0.00943 U	**0.148 A**	**12,900,000**	< 2.00 UJ	**1,100 J**	< 80 U
Shallow	MWA-33	GW-060503-05	6/5/2003								**198,000**	< 2.51 U		**540**
Shallow	MWA-33	GW-061103-02	6/11/2003		< 0.0170 UJ		< 0.0170 UJ		< 0.518 U	< 0.518 UT	**286,000**			**320**
Shallow	MWA-33	MWA-33-050505	5/5/2005										**44.6**	
Shallow	MWA-33	MWA-33-071405	7/14/2005										**51.8**	
Shallow	MWA-33	MWA-33-081105	8/11/2005										**36.2**	
Shallow	MWA-33	MWA-33-090705	9/7/2005										**30.2**	
Shallow	MWA-33	MWA-33-091405	9/14/2005											**1,500**
Shallow	MWA-33	MWA-33-120805	12/8/2005										**17.7**	
Shallow	MWA-33	MWA-33-011106	1/11/2006										**8.74 J**	
Shallow	MWA-33	MWA-33-020806	2/8/2006										**14.8**	
Shallow	MWA-33	MWA-33-072406	7/24/2006										**11 J**	
Shallow	MWA-33	MWA-33-040307	4/3/2007		**0.0688 J**		**0.106**		**0.0892 J**	**0.264 JA**	**336,000**		**11.9**	< 20.0 U
Shallow	MWA-33	MWA-33-080509	8/5/2009		< 0.0952 U		< 0.0952 U		< 0.0952 U	< 0.0952 UA	**929,000**		**14 J**	< 8 U
Shallow	MWA-40	MWA-40-050505	5/5/2005										< 4.55 U	
Shallow	MWA-40	MWA-40-071205	7/12/2005										< 4.55 U	
Shallow	MWA-40	MWA-40-081105	8/11/2005										< 4.55 U	
Shallow	MWA-40	MWA-40-090705	9/7/2005										**4.76 J**	
Shallow	MWA-40	MWA-40-120705	12/7/2005										< 4.55 U	
Shallow	MWA-40	MWA-40-011106	1/11/2006										< 4.55 U	
Shallow	MWA-40	MWA-40-020806	2/8/2006										< 4.55 U	
Shallow	MWA-40	MWA-40-072406	7/24/2006										**9.5 J**	
Shallow	MWA-40	MWA-40-040307	4/3/2007								**294,000**		**21.7**	< 400 U
Shallow	MWA-40	MWA-40-080509	8/5/2009								**220,000**		**42 J**	< 20 U
Shallow	MWA-41	MWA-41-050905	5/9/2005										< 4.55 U	
Shallow	MWA-41	MWA-41-071505	7/15/2005										< 4.55 U	
Shallow	MWA-41	MWA-41-081205	8/12/2005										< 4.55 U	
Shallow	MWA-41	MWA-41-090705	9/7/2005										< 4.55 U	
Shallow	MWA-41	MWA-41-120805	12/8/2005										**0.600 J**	
Shallow	MWA-41	MWA-41-010506	1/5/2006										< 4.55 U	
Shallow	MWA-41	MWA-41-020806	2/8/2006										< 4.55 U	
Shallow	MWA-41	MWA-41-072406	7/24/2006										**15.1 J**	
Shallow	MWA-41	MWA-41-041607	4/16/2007								**26,600**		< 0.6 U	**1.7 J**
Shallow	MWA-41	MWA-41-080609	8/6/2009								**26,300**		< 25 UJ	< 4 U
Shallow	MWA-42	MWA-42-050505	5/5/2005										**56.2**	

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Aquifer	Well ID	Sample ID	Date	2,4'-DDD	4,4'-DDD	2,4'-DDE	4,4'-DDE	2,4'-DDT	4,4'-DDT	Total of 2,4' and 4,4'-DDD, -DDE, -DDT	Chloride	Chlorobenzene	Chromium (VI)	Perchlorate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Shallow	MWA-42	MWA-42-071205	7/12/2005										< 4.55 U	
Shallow	MWA-42	MWA-42	8/2/2005		< 0.250 UJ		< 0.250 UJ		< 0.250 UJ	< 0.25 UJT		**94.0**		
Shallow	MWA-42	MWA-42-081505	8/15/2005										**11.9**	
Shallow	MWA-42	MWA-42-090805	9/8/2005								**913,000**			
Shallow	MWA-42	MWA-42-092305	9/23/2005										**46.7**	
Shallow	MWA-42	MWA-42-120705	12/7/2005										**27.7**	
Shallow	MWA-42	MWA-42-011106	1/11/2006										**5.77 J**	
Shallow	MWA-42	MWA-42-020906	2/9/2006										**6.26 J**	
Shallow	MWA-42	MWA-42-072506	7/25/2006										**8.6 J**	
Shallow	MWA-42	MWA-42-040307	4/3/2007		**0.101**		**0.197**		**0.111**	**0.409 A**	**45,000**	**3.35**	**7.4**	< 80.0 U
Shallow	MWA-42	MWA-42-081709	8/17/2009		**0.104**		**0.152**		< 0.0952 U	**0.256 A**	**816,000**	**129**	< 25 UJ	< 40 U
Shallow	MWA-46	MWA-46-050605	5/6/2005										**49.5 J**	
Shallow	MWA-46	MWA-46-071405	7/14/2005										**41.1**	
Shallow	MWA-46	MWA-46	8/4/2005		< 0.0500 U		< 0.0500 U		**0.611 J**	**0.611 JT**		**40.2**		
Shallow	MWA-46	MWA-46-081605	8/16/2005										**20.3**	
Shallow	MWA-46	MWA-46-091305	9/13/2005								**1,250,000**		**43.3**	< 1 U
Shallow	MWA-46	MWA-46-120905	12/9/2005										**16.7**	
Shallow	MWA-46	MWA-46-010906	1/9/2006										< 4.55 U	
Shallow	MWA-46	MWA-46-021306	2/13/2006										**5.14 J**	
Shallow	MWA-46	MWA-46-072606	7/26/2006										**35.4**	
Shallow	MWA-46	MWA-46-041107	4/11/2007		< 0.0980 U		< 0.0980 U		**0.323**	**0.323 A**	**1,820,000**	**938**	**22**	< 80.0 U
Shallow	MWA-46	MWA-46-081009	8/10/2009		**0.429**		**0.176 J**		**0.728**	**1.33 JA**	**651,000**	**1.54**	< 250 UJ	< 40 U
Shallow	MWA-47	MWA-47-050605	5/6/2005										< 4.55 U	
Shallow	MWA-47	MWA-47-071905	7/19/2005										< 40.0 UJ	
Shallow	MWA-47	MWA-47-081705	8/17/2005										**4.63 J**	
Shallow	MWA-47	MWA-47-090905	9/9/2005								**9,690,000**		< 4.55 U	**66,000**
Shallow	MWA-47	MWA-47-121205	12/12/2005										< 4.55 U	
Shallow	MWA-47	MWA-47-010606	1/6/2006										**14.3**	
Shallow	MWA-47	MWA-47-021006	2/10/2006										< 4.55 U	
Shallow	MWA-47	MWA-47-072606	7/26/2006										< 2 U	
Shallow	MWA-47	MWA-47-040507	4/5/2007		**0.265**		**0.0489 J**		**0.152**	**0.466 JA**	**3,690,000**	**0.540**	< 20 UJ	**82.3**
Shallow	MWA-47	MWA-47-080609	8/6/2009		**0.200**		**0.0353 J**		**0.0931 J**	**0.328 JA**	**2,110,000**	**0.880 J**	**110 J**	< 20 U
Shallow	MWA-47	MWA-47-022119	2/21/2019	**0.040 j**	**0.067**	< 0.10	< 0.0050	< 0.10	**0.041**	**0.148**		**33**	**1.1**	**3.9 j**
Shallow	MWA-61	MWA-61	8/1/2005		< 2.50 UJ		< 2.50 UJ		< 2.50 UJ	< 2.5 UJT		**5,800**		
Shallow	MWA-61	MWA-61-102605	10/26/2005		**0.109**		< 0.236 UJ		**0.129**	**0.238 T**		**2,100**		
Shallow	MWA-61	MWA-61-112105	11/21/2005		**0.11**		**0.0557 J**		**0.204**	**0.369 JT**		**133**		
Shallow	MWA-61	MWA-61-011306	1/13/2006		**0.545**		< 0.0472 U		**0.124**	**0.669 T**		**465**		
Shallow	MWA-61	MWA-61-040407	4/4/2007		**0.567**		< 0.0980 U		< 0.0980 U	**0.567 A**	**683,000**	**325**		**343**
Shallow	MWA-61	MWA-61-081009	8/10/2009		**0.356 J**		< 0.476 U		< 0.476 U	**0.356 JA**	**473,000**	**715 J**		**489**
Shallow	MWA-61	MWA-61-022119	2/21/2019	**0.27 J+**	**0.50 J+**	< 0.10	**0.016 J+**	< 0.10	**0.029 J+**	**0.815**		**690**	< 1.0	**37**
Shallow	MWA-63	MWA-63-102705	10/27/2005		< 0.0472 U		< 0.0472 U		< 0.0472 U	< 0.0472 UT		**7.60**		
Shallow	MWA-63	MWA-63-112105	11/21/2005		< 0.0495 U		< 0.0495 U		**0.0533 J**	**0.0533 JT**		< 0.272 U		
Shallow	MWA-63	MWA-63-040407	4/4/2007		< 0.00995 UJ		< 0.00995 UJ		**0.00603 J**	**0.00603 JA**	**358,000**	**0.180 J**		< 4.0 U
Shallow	MWA-63	MWA-63-080509	8/5/2009		< 0.00952 U		< 0.00952 U		**0.00574 J**	**0.00574 JA**	**690,000**	< 100 U		< 8 U
Shallow	MWA-63	MWA-63-022119	2/21/2019	< 0.10	< 0.0050	< 0.10	< 0.0050	< 0.10	< 0.010	< 0.10		**5,800**	< 1.0 UJ	< 4.0
Shallow	MWA-69	MWA-69	8/2/2005		**17.3**		< 5.00 UJ		**51.1**	**68.4 T**		**9,010**		
Shallow	MWA-69	MWA-69-102505	10/25/2005		**3.93**		**0.289**		**6.84**	**11.059 T**		**2,690**		
Shallow	MWA-69	MWA-69-112205	11/22/2005		**4.36**		**0.425**		**9.33**	**14.115 T**		**3,640**		
Shallow	MWA-69	MWA-69-011606	1/16/2006		**8.64**		**0.838**		**29.5**	**38.978 T**		**166**		
Shallow	MWA-69	MWA-69-041707	4/17/2007		**15.6**		**1.05 J**		**46.4 J**	**62.9 JA**	**511,000**	**5,360**		**29.5 J**
Shallow	MWA-69	MWA-69-081109	8/11/2009		**50.0**		**4.16**		**57.9**	**112.06**	**297,000**	**6,930**		< 20 U
Shallow	MWA-69	MWA-69-090309	9/3/2009		**7.45**		**0.369**		**5.95**	**13.8 A**				
Intermediate	MWA-8I	GWG001	11/24/1998									**1,700**		
Intermediate	MWA-8I	GW019906	1/27/1999		**5.3 J**		**0.07 J**		**1 J**	**6.37 JT**	**2,660,000**	**4,800**		
Intermediate	MWA-8I	GW029908	4/27/1999		**0.16 J**		< 0.04 UJ		< 0.04 UJ	**0.16 JT**	**2,290,000**	**4,300 J**		

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Aquifer	Well ID	Sample ID	Date	2,4'-DDD	4,4'-DDD	2,4'-DDE	4,4'-DDE	2,4'-DDT	4,4'-DDT	Total of 2,4' and 4,4'-DDD, -DDE, -DDT	Chloride	Chlorobenzene	Chromium (VI)	Perchlorate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Intermediate	MWA-8I	GW039905	8/24/1999		**0.05 J**		< 0.04 UJ		< 0.04 UJ	**0.05 JT**	**2,660,000**	**3,400**		
Intermediate	MWA-8I	GW049906	11/16/1999		**0.08 J**					**0.08 JT**	**2,530,000**	**2,800**		
Intermediate	MWA-8I	GW010112	3/29/2001		< 0.1 U		< 0.1 U		< 0.1 U	< 0.1 UT	**1,660,000 J**	**4,100**		
Intermediate	MWA-8I	GW020107	6/12/2001		**0.11 J**					**0.11 JT**	**1,420,000**	**1,400**		
Intermediate	MWA-8I	GW04100206	4/10/2002		**0.08**		< 0.0097 U		**0.012**	**0.092 T**	**2,110,000**	**940**		
Intermediate	MWA-8I	GW-060903-02	6/9/2003		< 0.0170 U		< 0.0170 U		< 0.0280 U	< 0.028 UT	**2,380,000**	**23**		< 20 U
Intermediate	MWA-8I	MWA-8I-111004	11/10/2004		< 0.0500 U		< 0.0500 U		**0.590**	**0.59 T**		**24**		
Intermediate	MWA-8I	MWA-8I-031005	3/10/2005		< 0.0500 U		< 0.0500 U		**0.138 J**	**0.138 JT**		**185**		
Intermediate	MWA-8I	MWA-8I-062105	6/21/2005		< 0.0500 U		< 0.0500 U		< 0.0500 U	< 0.05 UT		**27**		
Intermediate	MWA-8I	MWA-8I-091505	9/15/2005		< 0.00103 U		< 0.00367 U		**0.0243 J**	**0.0243 JT**		**122**		
Intermediate	MWA-8I	MWA-8I-102705	10/27/2005		< 0.0472 U		< 0.0472 U		< 0.0472 U	< 0.0472 UT		**215**		
Intermediate	MWA-8I	MWA-8I-112105	11/21/2005		< 0.0472 U		< 0.0472 U		**0.0678 J**	**0.0678 JT**		**46**		
Intermediate	MWA-8I	MWA-8I-122005	12/20/2005		< 0.0957 UJ		< 0.0957 UJ		< 0.0957 UJ	< 0.0957 UJT		**25**		
Intermediate	MWA-8I	MWA-8I-032906	3/29/2006		< 0.0490 U		< 0.0490 U		< 0.0490 U	< 0.049 UT		**18**		
Intermediate	MWA-8I	MWA-8I-040407	4/4/2007		< 0.0976 U		< 0.0976 U		< 0.0976 U	< 0.0976 UA	**1,420,000**	**4,910**		< 200 U
Intermediate	MWA-8I	MWA-8I-080609	8/6/2009		< 0.0190 U		< 0.0190 U		**0.0194**	**0.0194 A**	**1,020,000**	**746**		< 20 U
Intermediate	MWA-32I	GW-060403-10	6/4/2003		< 0.0170 UJ		< 0.0170 UJ		< 0.0280 UJ	< 0.028 UJT	**31,000,000**			**200,000**
Intermediate	MWA-32I	MWA-32I-050605	5/6/2005								**17,600,000**		**176**	
Intermediate	MWA-32I	MWA-32I-051005	5/10/2005											**158,000**
Intermediate	MWA-32I	MWA-32I-071805	7/18/2005										**119**	
Intermediate	MWA-32I	MWA-32I	8/3/2005		< 0.0500 U		< 0.0500 U		< 0.0500 U	< 0.05 UT		**1**		
Intermediate	MWA-32I	MWA-32I-081705	8/17/2005										**555**	
Intermediate	MWA-32I	MWA-32I-091405	9/14/2005								**13,700,000**		**386**	**160,000**
Intermediate	MWA-32I	MWA-32I-120905	12/9/2005										**14.4**	
Intermediate	MWA-32I	MWA-32I-010606	1/6/2006										**6.55 J**	
Intermediate	MWA-32I	MWA-32I-021006	2/10/2006										**6.72 J**	
Intermediate	MWA-32I	MWA-32I-072606	7/26/2006										< 2 U	
Intermediate	MWA-32I	MWA-32I-040507	4/5/2007		**0.0818 J**		< 0.0952 U		< 0.0952 U	**0.0818 JA**	**33,800,000**	**0.470 J**	**8 J**	**131 J**
Intermediate	MWA-32I	MWA-32I-081009	8/10/2009		**0.0568 J**		< 0.0962 U		< 0.0962 U	**0.0568 JA**	**2,520,000**	**0.180 J**	**210 J**	**29,900**
Intermediate	MWA-34I	GW-060603-05	6/6/2003		**0.0892**		< 0.0170 U		**0.327**	**0.416 T**	**3,040,000**	**666**		**4,600**
Intermediate	MWA-34I	MWA-34I-050605	5/6/2005								**5,260,000**		**35.8**	
Intermediate	MWA-34I	MWA-34I-071805	7/18/2005										**17.6**	
Intermediate	MWA-34I	MWA-34I	8/3/2005		< 0.0500 U		< 0.0500 U		< 0.0500 U	< 0.05 UT		**1,540**		
Intermediate	MWA-34I	MWA-34I-081705	8/17/2005										**192**	
Intermediate	MWA-34I	MWA-34I-091305	9/13/2005								**4,580,000**		**26.9**	**5,900**
Intermediate	MWA-34I	MWA-34I-120905	12/9/2005										**30.2**	
Intermediate	MWA-34I	MWA-34I-010906	1/9/2006										**13.5**	
Intermediate	MWA-34I	MWA-34I-021006	2/10/2006										**12.3**	
Intermediate	MWA-34I	MWA-34I-072606	7/26/2006										**34.5**	
Intermediate	MWA-34I	MWA-34I-040907	4/9/2007		< 0.0971 U		< 0.0971 U		< 0.0971 U	< 0.0971 UA	**1,400,000**	**3,920**	**32.6**	< 80.0 U
Intermediate	MWA-34I	MWA-34I-081109	8/11/2009		< 0.0200 U		< 0.0200 U		< 0.0200 U	< 0.02 UA	**740,000**	**3,240**	< 250 UJ	< 40 U
Intermediate	MWA-49I	MWA-49I-050605	5/6/2005										< 4.55 U	
Intermediate	MWA-49I	MWA-49I-071405	7/14/2005										< 4.55 U	
Intermediate	MWA-49I	MWA-49I	8/3/2005		< 0.0500 U		< 0.0500 U		**0.204**	**0.204 T**		**6**		
Intermediate	MWA-49I	MWA-49I-081605	8/16/2005										< 4.55 U	
Intermediate	MWA-49I	MWA-49I-091305	9/13/2005								**10,600,000**		< 4.55 U	**160,000**
Intermediate	MWA-49I	MWA-49I-120905	12/9/2005										< 4.55 U	
Intermediate	MWA-49I	MWA-49I-010906	1/9/2006										< 4.55 U	
Intermediate	MWA-49I	MWA-49I-021306	2/13/2006										< 4.55 U	
Intermediate	MWA-49I	MWA-49I-072606	7/26/2006										< 2 U	
Intermediate	MWA-49I	MWA-49I-041107	4/11/2007		< 0.0971 U		< 0.0971 U		**0.135**	**0.135 A**	**11,000,000**	**0.780 J**	**0.9 J**	**42,800**
Intermediate	MWA-49I	MWA-49I-081009	8/10/2009		**0.0402 J**		**0.0394 J**		**0.269**	**0.349 JA**	**7,560,000**	< 10.0 U	< 25 UJ	**58,900**
Intermediate	MWA-51I	MWA-51I-050505	5/5/2005										**48.5**	
Intermediate	MWA-51I	MWA-51I-071405	7/14/2005										**63.1**	
Intermediate	MWA-51I	MWA-51I	8/3/2005		< 0.0500 U		< 0.0500 U		**1.21**	**1.21 T**		**845**		

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Aquifer	Well ID	Sample ID	Date	2,4'-DDD	4,4'-DDD	2,4'-DDE	4,4'-DDE	2,4'-DDT	4,4'-DDT	Total of 2,4' and 4,4'-DDD, -DDE, -DDT	Chloride	Chlorobenzene	Chromium (VI)	Perchlorate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Intermediate	MWA-51I	MWA-51I-081605	8/16/2005										**24.3**	
Intermediate	MWA-51I	MWA-51I-091305	9/13/2005								**8,910,000**		**46.8**	**590**
Intermediate	MWA-51I	MWA-51I-120805	12/8/2005										**22.0**	
Intermediate	MWA-51I	MWA-51I-011006	1/10/2006										< 4.55 U	
Intermediate	MWA-51I	MWA-51I-021306	2/13/2006										**10.7**	
Intermediate	MWA-51I	MWA-51I-041107	4/11/2007		**0.103**		< 0.0962 U		**0.0572 J**	**0.16 JA**	**4,640,000**	**358**	**31.3**	**54.6 J**
Intermediate	MWA-51I	MWA-51I-081009	8/10/2009		**0.113**		< 0.0962 U		**0.0363 J**	**0.149 JA**	**2,780,000**	**336 J**	< 250 UJ	< 40 U
Intermediate	MWA-53I	MWA-53I-050905	5/9/2005										< 4.55 U	
Intermediate	MWA-53I	MWA-53I-071805	7/18/2005										< 4.55 U	
Intermediate	MWA-53I	MWA-53I-081205	8/12/2005										< 4.55 U	
Intermediate	MWA-53I	MWA-53I-091205	9/12/2005								**14,300,000**		< 4.55 U	**1,400**
Intermediate	MWA-53I	MWA-53I-120805	12/8/2005										**1.10 J**	
Intermediate	MWA-53I	MWA-53I-010606	1/6/2006										< 4.55 U	
Intermediate	MWA-53I	MWA-53I-020806	2/8/2006										< 4.55 U	
Intermediate	MWA-53I	MWA-53I-072406	7/24/2006										**6.8 J**	
Intermediate	MWA-53I	MWA-53I-041607	4/16/2007								**16,200,000**		< 6 UJ	**209**
Intermediate	MWA-53I	MWA-53I-080609	8/6/2009								**5,980,000**		< 25 UJ	< 20 U
Intermediate	MWA-54I	MWA-54I-050505	5/5/2005										**54.8**	
Intermediate	MWA-54I	MWA-54I-071205	7/12/2005										< 136 U	
Intermediate	MWA-54I	MWA-54I-081505	8/15/2005										< 4.55 U	
Intermediate	MWA-54I	MWA-54I-090805	9/8/2005								**5,540,000**			
Intermediate	MWA-54I	MWA-54I-092305	9/23/2005										**6.34 J**	
Intermediate	MWA-54I	MWA-54I-120705	12/7/2005										**7.20 J**	
Intermediate	MWA-54I	MWA-54I-011106	1/11/2006										**11.3**	
Intermediate	MWA-54I	MWA-54I-020906	2/9/2006										**11.3**	
Intermediate	MWA-54I	MWA-54I-07506	7/25/2006										**17.5 J**	
Intermediate	MWA-54I	MWA-54I-040307	4/3/2007		< 0.0962 U		< 0.0962 U		< 0.0962 U	< 0.0962 UA	**3,090,000**	**9**	**14.4**	< 40.0 U
Intermediate	MWA-54I	MWA-54I-081909	8/19/2009		**0.0380 J**		**0.00781 J**		**0.0103 J**	**0.0561**	**2,750,000**	**7**	**210 J**	< 40 U
Intermediate	MWA-64I	MWA-64I	8/1/2005		**0.207**		< 0.0500 U		**0.309**	**0.516 T**		**2,320**		
Intermediate	MWA-64I	MWA-64I-040407	4/4/2007		**0.0563 J**		< 0.0966 U		< 0.0966 U	**0.0563 JA**	**1,910,000**	**17,500**		< 400 U
Intermediate	MWA-64I	MWA-64I-080609	8/6/2009		**0.0290 J**		< 0.0952 U		**0.0319 J**	**0.0609 JA**	**1,590,000**	**2,070**		< 40 U
Intermediate	MWA-66I	MWA-66I	8/2/2005		< 0.500 UJ		< 0.500 UJ		< 0.500 UJ	< 0.5 UJT		**12,900**		
Intermediate	MWA-66I	MWA-66I-041707	4/17/2007		< 0.0957 U		< 0.0957 U		< 0.0957 U	< 0.0957 UA	**1,890,000**	**8,160**		**39.0 J**
Intermediate	MWA-66I	MWA-66I-081109	8/11/2009		< 0.0340 U		< 0.00971 U		**0.00620 J**	**0.0062 JA**	**1,720,000**	**7,780**	< 25 UJ	**1,240**
Intermediate	MWA-70I	MWA-70I-B	4/19/2006								**68,000**	< 0.17 U	< 1.62 U	< 200 U
Intermediate	MWA-70I	MWA-70I-040307	4/3/2007								**4,090,000**		**1.4 J**	< 40.0 U
Intermediate	MWA-70I	MWA-70I-080509	8/5/2009								**5,200,000**		< 25 U	< 20 U
Deep	MWA-11I(D)	GWG004	12/7/1998									**49**		
Deep	MWA-11I(D)	GW019916	1/29/1999		< 0.04 U		< 0.04 U		**0.2**	**0.2 T**	**612,000**	**2.5**		
Deep	MWA-11I(D)	GW029905	4/27/1999		**0.19**		< 0.04 U		**0.08**	**0.27 T**	**637,000**	< 0.5 UJ		
Deep	MWA-11I(D)	GW039916	8/26/1999		**0.12**		< 0.04 U		**0.05**	**0.17 T**	**802,000**	< 0.5 U		
Deep	MWA-11I(D)	GW049914	11/17/1999		**0.1 J**		< 0.04 UJ		< 0.04 UJ	**0.1 JT**	**963,000**	< 1 U		
Deep	MWA-11I(D)	GW010118	3/30/2001		**0.25**		< 0.1 U		**0.7**	**0.95 T**	**768,000 J**	< 0.5 U		
Deep	MWA-11I(D)	GW020119	6/15/2001		**0.25**		**0.01 J**		**0.48**	**0.74 JT**	**773,000**	< 0.5 U		
Deep	MWA-11I(D)	GW04110204	4/11/2002		< 0.16 U		< 0.0097 U		< 0.085 U	< 0.16 UT	**833,000**	< 1.4 U		
Deep	MWA-11I(D)	GW-061003-03	6/10/2003		**1.2**		< 0.0170 U		< 0.573 U	**1.2 T**	**550,000**	< 0.71 U		< 20 U
Deep	MWA-11I(D)	MWA-11	8/1/2005		**0.593**		< 0.0500 U		**0.0829 J**	**0.6759 JT**		**0.810**		
Deep	MWA-11I(D)	MWA-11I-041707	4/17/2007		**0.0722 J**		< 0.0971 U		**0.0591 J**	**0.131 JA**	**1,210,000**	**1.92**		< 8.0 U
Deep	MWA-11I(D)	MWA-11I-081909	8/19/2009		**0.658**		**0.0459 J**		**0.0599 J**	**0.764 JA**	**1,090,000**	< 0.780 U	**40 J**	< 4 U
Deep	MWA-31I(D)	GW04080205	4/8/2002		< 0.0097 U		< 0.0097 U		< 0.0097 U	< 0.0097 UT	**39,100,000**	< 0.5 U		
Deep	MWA-31I(D)	GW-060403-07	6/4/2003		< 0.0170 U		< 0.0170 U		< 0.0280 U	< 0.028 UT	**61,100,000**			**4,700**
Deep	MWA-31I(D)	MWA-31I-050605	5/6/2005								**62,100,000**		**726**	
Deep	MWA-31I(D)	MWA-31I-071805	7/18/2005										**250**	
Deep	MWA-31I(D)	MWA-31I-081705	8/17/2005										**142**	
Deep	MWA-31I(D)	MWA-31I-091405	9/14/2005								**57,900,000**		**1,020**	

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				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Deep	MWA-31I(D)	MWA-31I-120905	12/9/2005										**25.1**	
Deep	MWA-31I(D)	MWA-31I-010906	1/9/2006										**45.3**	
Deep	MWA-31I(D)	MWA-31I-021006	2/10/2006										**104**	
Deep	MWA-31I(D)	MWA-31I-072606	7/26/2006										< 2 U	
Deep	MWA-31I(D)	MWA-31I(D)-040507	4/5/2007		< 0.0962 U		< 0.0962 U		< 0.0962 U	< 0.0962 UA	**53,700,000**	**0.640**	< 6 UJ	**5,730**
Deep	MWA-31I(D)	MWA-31I(D)-081009	8/10/2009		< 0.00952 U		< 0.00952 U		< 0.00952 U	< 0.00952 UA	**54,300,000**	< 2.50 UJ	**9,300 J**	**1,840**
Deep	MWA-56D	MWA-56D-050605	5/6/2005										< 4.55 U	
Deep	MWA-56D	MWA-56D-071405	7/14/2005										**22.3**	
Deep	MWA-56D	MWA-56D-081605	8/16/2005										< 4.55 U	
Deep	MWA-56D	MWA-56D-091305	9/13/2005								**30,800,000**		< 4.55 U	
Deep	MWA-56D	MWA-56D-120905	12/9/2005										< 4.55 UJ	
Deep	MWA-56D	MWA-56D-010906	1/9/2006										< 4.55 U	
Deep	MWA-56D	MWA-56D-021306	2/13/2006										< 4.55 U	
Deep	MWA-56D	MWA-56D-072606	7/26/2006										< 2 U	
Deep	MWA-56D	MWA-56D-041107	4/11/2007		< 0.0971 U		< 0.0971 U		< 0.0971 U	< 0.0971 UA	**27,900,000**	< 2.50 U	< 2 UJ	**2,430**
Deep	MWA-56D	MWA-56D-081009	8/10/2009		< 0.00976 U		< 0.00976 U		**0.00690 J**	**0.0069 JA**	**22,800,000**	< 5.00 U	< 25 UJ	**2,140**
Deep	MWA-58D	MWA-58D-050605	5/6/2005										< 4.55 U	
Deep	MWA-58D	MWA-58D-071405	7/14/2005										< 4.55 U	
Deep	MWA-58D	MWA-58D-081705	8/17/2005										< 4.55 U	
Deep	MWA-58D	MWA-58D-091305	9/13/2005								**60,700,000**		< 4.55 U	
Deep	MWA-58D	MWA-58D-120905	12/9/2005										< 4.55 UJ	
Deep	MWA-58D	MWA-58D-010906	1/9/2006										< 4.55 U	
Deep	MWA-58D	MWA-58D-021006	2/10/2006										< 4.55 U	
Deep	MWA-58D	MWA-58D-072606	7/26/2006										< 2 U	
Deep	MWA-58D	MWA-58D-040907	4/9/2007		< 0.0962 U		< 0.0962 U		< 0.0962 U	< 0.0962 UA	**53,600,000**	< 2.50 U	**57.5**	**59,600**
Deep	MWA-58D	MWA-58D-081009	8/10/2009		< 0.00943 U		< 0.00943 U		**0.0286**	**0.0286 A**	**33,600,000**	**2.00 J**	< 25 UJ	**128,000**

Notes:
Bolded values indicate concentrations above the Reportable Detection Limit.
< = Compound not detected. Reportable detection limit shown.
µg/L = micrograms per liter
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane

Qualifers:
A = Total value based on limited number of analytes.
j = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The concentration of the sample is considered to be biased high, as the associated QC results exceed the upper control limits.
J- = The concentration of the sample is considered to be biased low, as the associated QC results are outside the lower control limits.
T = Sample temperature did not meet quality control criteria.
U = Compound not detected based on quality assurance review.
UJ = Analyte was analyzed for, but not detected. The detection limit is a quantitative estimate.
R = Rejected. Quality control indicates that the data are unusable (compound may or not be present).

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