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Arkema Quarter 3, 2024, Groundwater Monitoring Report

Arkema Inc. Facility, Portland, Oregon

PREPARED FOR
Legacy Site Services LLC

DATE
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REFERENCE
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Arkema Quarter 3, 2024, Groundwater Monitoring Report

Arkema Inc. Facility, Portland, Oregon
0732445



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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 3, 2024, 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 3, 2024, 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 3, 2024, 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 GBBW:

- 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.



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2. FIELD PROCEDURES

ERM collected groundwater elevation data from 128 well locations on 6 September 2024 and groundwater samples from 28 well locations between 9 September and 11 September 2024. Two well locations in the Approved Groundwater Monitoring Program, PA-16i and PA-21d, were not sampled and additional details are included in Section 2.5. 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 6 September 2024 from 127 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. For locations with transducers where a manual measurement was collected, when drift was 0.1 foot or greater, the transducer was recalibrated.

2.2 GROUNDWATER SAMPLE COLLECTION PROCEDURES

ERM collected groundwater samples from 28 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 28 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, turbidity) were collected with calibrated field water quality meters. 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.

2.5 DEVIATIONS FROM GROUNDWATER MONITORING WORK PLAN

Deviations outside of the Approved Groundwater Monitoring Program include select wells sampled during Quarter 3, 2024, with unstable turbidity, unstable dissolved oxygen, and drawdown over 1 foot. Additional details are provided below in Section 3.2.1.

Two well locations, PA-16i and PA-21d, were not sampled. The transducer in well location PA-21d was unable to be removed for groundwater sampling. At well location PA-16i, ERM staff were unable to place sampling equipment in the well. Upon field inspection, PA-16i was partially filled with dirt and rocks and the well cap was moved, likely due to ground squirrel activity. ERM staff removed the debris from PA-16i on 24 September 2024.



3. GROUNDWATER MONITORING RESULTS

3.1 GROUNDWATER ELEVATIONS

On 6 September 2024, ERM manually measured depth to groundwater to the nearest 0.01 foot in 62 wells at the Site using an electronic water level indicator. For the additional 65 wells with functioning transducers, ERM collected transducer groundwater elevation data on 6 September 2024. 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, the time period used for averaging transducer groundwater elevation data, and transducers recalibrated based on this event. 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.

3.2 GROUNDWATER SAMPLING RESULTS

ERM personnel completed groundwater sampling between 9 and 11 September 2024 at 28 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. The following well locations did not stabilize for select field parameters during the Quarter 3, 2024, groundwater monitoring event:

- Two monitoring locations (PA-19d and PA-20d) did not stabilize for turbidity during the Quarter 3, 2024, 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 quality of the data is not considered to be affected by the unstable turbidity.
- Two monitoring locations (PA-20d and PA-23d) did not stabilize for dissolved oxygen (DO) during the Quarter 3, 2024, groundwater monitoring event.
- Three monitoring locations (PA-19d, PA-20d, and PA-23d) had drawdown greater than 1 foot during the Quarter 3, 2024, groundwater monitoring event.

At each of the well locations with non-stabilized field parameters listed above, three well volumes were purged prior to sampling. Monitoring wells were also gauged for total depth following sampling. Well drawdown will continue to be monitored and following the upcoming Quarter 4, 2024, monitoring event, monitoring wells with repeated excessive drawdown through the year will be evaluated and considered for potential redevelopment.



3.2.2 ANALYTICAL RESULTS

Tables 4 and 5 present the analytical results for VOCs, and perchlorate and chloride, respectively, from the Quarter 3, 2024, 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 4 out of 30 samples. The highest detected concentration of chlorobenzene was 8,200 micrograms per liter ($\mu\text{g/L}$) 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 0.20 $\mu\text{g/L}$ at Intermediate Zone piezometer PA-32i.

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 7 out of 30 samples. The highest detected concentration of PCE was 9.9 $\mu\text{g/L}$ at Shallow Zone monitoring well MWA-63.
- TCE was detected in 5 out of 30 samples. The highest detected concentration of TCE was 2.6 $\mu\text{g/L}$ at Shallow Zone monitoring well MWA-63.
- cis-1,2-DCE was detected in 9 out of 30 samples. The highest detected concentration of cis-1,2-DCE was 3.6 $\mu\text{g/L}$ at Shallow Zone monitoring well MWA-63.
- Vinyl chloride was detected in 3 out of 30 samples. The highest detected concentration of vinyl chloride was 0.50 $\mu\text{g/L}$ at Intermediate Zone piezometer PA-10i.

3.2.2.2 PERCHLORATE

Perchlorate results for the Shallow, Intermediate, and Deep Zones are presented on Figures 14 through 16, respectively. Perchlorate was detected in 8 out of 30 samples. The highest detected concentration of perchlorate was 87,000 $\mu\text{g/L}$ at Deep Zone monitoring well MWA-31i(d).

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 33,000 milligrams per liter at Deep Zone piezometer PA-23d.



4. RECOMMENDATIONS

Following the Quarter 3, 2024, groundwater monitoring event, no changes are recommended to the GMWP at this time.

ERM will conduct the Quarter 4, 2024, groundwater monitoring event according to the following schedule:

- Water levels will be measured on 6 December 2024.
- Sampling will begin 9 December 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 (January 2025).

The Quarter 4, 2024, Groundwater Monitoring Report will be submitted to the ODEQ within 60 days after data validation (March 2025).



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. 2022. *Final Design Report*. Arkema Inc. Facility, Portland, Oregon. July 2022.
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TABLES

Table 1
Groundwater Sampling Matrix
Arkema Quarter 3, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Analyte			Volatiles Organic Compounds	Volatiles Organic Compounds	Chloride	Perchlorate	Comments
Analytical Method			8260C	8260C_LL ^a	300	314	
Location ID	Aquifer Classification	Groundwater Level Measurement					
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			Volatiles Organic Compounds	Volatiles Organic Compounds	Chloride	Perchlorate	Comments
Analytical Method			8260C	8260C_LL ^a	300	314	
Location ID	Aquifer Classification	Groundwater Level Measurement					
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	--	--	--	--	
MWA-08i	Intermediate	X*	--	--	--	--	
MWA-16i	Intermediate	X	--	--	--	--	
MWA-34iR ^b	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	

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Analyte			Volatiles Organic Compounds	Volatiles Organic Compounds	Chloride	Perchlorate	Comments
Analytical Method			8260C	8260C_LL ^a	300	314	
Location ID	Aquifer Classification	Groundwater Level Measurement					
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*	--	--	--	--	Not sampled due to obstruction
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	
PA-20d	Deep	X	X	--	X	X	
PA-21d	Deep	X	--	--	--	--	Not sampled due to obstruction
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

^b MWA-34i was abandoned on 30 May 2024 and reinstalled as MWA-34iR on 29 May 2024.

* = indicates locations where groundwater level measured with transducer

Table 2
Groundwater Elevation Results
Arkema Quarter 3, 2024, Groundwater Monitoring Report
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)	Transducer Recalibrated following Manual Measurement ^a
MWA-02*	9/6/2024	*	Shallow	36.20	--	8.20	
MWA-15r	9/6/2024	10:02:00 AM	Shallow	36.06	25.38	10.68	
MWA-18	9/6/2024	8:55:00 AM	Shallow	39.43	30.55	8.88	
MWA-19**	9/6/2024	9:06:00 AM	Shallow	38.26	29.42	8.84	
MWA-20	9/6/2024	9:11:00 AM	Shallow	40.95	27.55	13.40	
MWA-22	9/6/2024	10:00:00 AM	Shallow	36.59	22.26	14.33	
MWA-24	9/6/2024	7:57:00 AM	Shallow	37.58	22.91	14.67	
MWA-29	9/6/2024	8:38:00 AM	Shallow	44.42	34.91	9.51	
MWA-33	9/6/2024	8:06:00 AM	Shallow	37.26	18.80	18.46	
MWA-40	9/6/2024	7:55:00 AM	Shallow	36.96	18.08	18.88	
MWA-41	9/6/2024	8:14:00 AM	Shallow	45.14	33.41	11.73	
MWA-42	9/6/2024	9:14:00 AM	Shallow	37.24	24.94	12.30	
MWA-43	9/6/2024	8:29:00 AM	Shallow	44.53	34.69	9.84	
MWA-46	9/6/2024	9:00:00 AM	Shallow	36.67	27.90	8.77	
MWA-47*	9/6/2024	*	Shallow	39.02	--	8.44	
MWA-61	9/6/2024	10:22:00 AM	Shallow	36.21	27.91	8.30	
MWA-63	9/6/2024	7:22:00 AM	Shallow	36.29	26.98	9.31	
MWA-69*	9/6/2024	*	Shallow	33.73	--	7.86	
MWA-71	9/6/2024	7:15:00 AM	Shallow	34.82	6.05	28.77	
MWA-72	9/6/2024	7:44:00 AM	Shallow	34.16	5.46	28.70	
MWA-73	9/6/2024	7:51:00 AM	Shallow	36.01	7.51	28.50	
MWA-82	9/6/2024	8:12:00 AM	Shallow	37.74	24.11	13.63	
PA-03*	9/6/2024	*	Shallow	37.10	--	24.07	
PA-04*	9/6/2024	*	Shallow	36.67	--	24.54	
PA-05*	9/6/2024	*	Shallow	37.22	--	8.25	
PA-06*	9/6/2024	*	Shallow	38.03	--	11.81	
PA-07*	9/6/2024	*	Shallow	39.30	--	13.71	
PA-08*	9/6/2024	*	Shallow	40.47	--	12.35	
PA-09**	9/6/2024	8:20:00 AM	Shallow	40.24	29.05	11.19	
PA-28*	9/6/2024	*	Shallow	38.58	--	13.95	
PA-31	9/6/2024	7:33:00 AM	Shallow	36.25	11.62	24.63	
PA-33	9/6/2024	7:31:00 AM	Shallow	36.29	12.17	24.12	
PA-35	9/6/2024	7:26:00 AM	Shallow	35.91	27.21	8.70	
PA-36	9/6/2024	9:51:00 AM	Shallow	36.90	29.20	7.70	
PA-38	9/6/2024	8:31:00 AM	Shallow	42.93	29.35	13.58	
PA-41	9/6/2024	8:40:00 AM	Shallow	39.69	27.27	12.42	
PA-42	9/6/2024	8:36:00 AM	Shallow	40.60	28.09	12.51	
PA-43	9/6/2024	8:23:00 AM	Shallow	40.41	27.70	12.71	
RP-02-31	9/6/2024	6:51:00 AM	Shallow	42.49	32.15	10.34	
RP-10-30	9/6/2024	7:04:00 AM	Shallow	37.47	9.63	27.84	
RW-05*	9/6/2024	*	Shallow	34.80	--	21.17	
RW-07**	9/6/2024	9:42:00 AM	Shallow	33.98	26.23	7.75	
RW-08*	9/6/2024	*	Shallow	34.21	--	8.85	
RW-10*	9/6/2024	*	Shallow	34.33	--	11.36	
RW-12*	9/6/2024	*	Shallow	35.58	--	12.28	
RW-14*	9/6/2024	*	Shallow	36.08	--	13.41	
RW-15*	9/6/2024	*	Shallow	35.81	--	13.57	
RW-17*	9/6/2024	*	Shallow	36.55	--	13.78	
RW-18*	9/6/2024	*	Shallow	36.51	--	13.55	
RW-20*	9/6/2024	*	Shallow	37.07	--	13.58	
RW-22*	9/6/2024	*	Shallow	38.02	--	12.82	
RW-23*	9/6/2024	*	Shallow	33.63	--	7.91	
RW-25*	9/6/2024	*	Shallow	38.06	--	12.22	
EW-1*	9/6/2024	*	Shallow/Intermediate	33.84	--	9.49	
EW-2*	9/6/2024	*	Shallow/Intermediate	34.20	--	11.56	
EW-3*	9/6/2024	*	Shallow/Intermediate	34.43	--	8.55	
EW-4*	9/6/2024	*	Shallow/Intermediate	34.61	--	7.86	
EW-5*	9/6/2024	*	Shallow/Intermediate	35.03	--	10.32	
EW-6*	9/6/2024	*	Shallow/Intermediate	35.43	--	10.47	
EW-7*	9/6/2024	*	Shallow/Intermediate	35.24	--	12.05	
EW-8*	9/6/2024	*	Shallow/Intermediate	35.07	--	12.49	
EW-9*	9/6/2024	*	Shallow/Intermediate	36.77	--	12.32	
EW-10*	9/6/2024	*	Shallow/Intermediate	36.35	--	11.71	
EW-11*	9/6/2024	*	Shallow/Intermediate	37.38	--	15.73	
EW-12*	9/6/2024	*	Shallow/Intermediate	38.24	--	-17.06	
EW-13*	9/6/2024	*	Shallow/Intermediate	39.79	--	13.46	
EW-14*	9/6/2024	*	Shallow/Intermediate	40.03	--	13.16	
MWA-83	9/6/2024	9:36:00 AM	Shallow/Intermediate	35.82	25.55	10.27	
MWA-84	9/6/2024	9:48:00 AM	Shallow/Intermediate	36.31	28.38	7.93	

Table 2
Groundwater Elevation Results
Arkema Quarter 3, 2024, Groundwater Monitoring Report
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)	Transducer Recalibrated following Manual Measurement ^a
MWA-85	9/6/2024	10:07:00 AM	Shallow/Intermediate	36.86	26.46	10.40	
MWA-86	9/6/2024	9:16:00 AM	Shallow/Intermediate	37.15	25.20	11.95	
MWA-87	9/6/2024	8:51:00 AM	Shallow/Intermediate	37.68	24.26	13.41	
MWA-88	9/6/2024	8:44:00 AM	Shallow/Intermediate	39.36	25.89	13.47	
MWA-89	9/6/2024	8:27:00 AM	Shallow/Intermediate	41.65	29.25	12.40	
MWA-07(i)	9/6/2024	7:52:00 AM	Intermediate	36.24	8.10	28.14	
MWA-08i*	9/6/2024	*	Intermediate	36.25	--	8.33	
MWA-16i	--	--	Intermediate	36.58	NM	--	
MWA-34iR*	9/6/2024	*	Intermediate	37.36	--	8.36	
MWA-49i	9/6/2024	9:01:00 AM	Intermediate	36.68	27.92	8.76	
MWA-53i	9/6/2024	8:39:00 AM	Intermediate	44.63	35.22	9.41	
MWA-54i	9/6/2024	9:15:00 AM	Intermediate	37.35	25.96	11.39	
MWA-66i*	9/6/2024	*	Intermediate	33.35	--	8.21	
MWA-70i	9/6/2024	8:05:00 AM	Intermediate	37.62	21.90	15.72	
MWA-74i	9/6/2024	7:16:00 AM	Intermediate	34.72	11.90	22.82	
MWA-75i	9/6/2024	7:46:00 AM	Intermediate	34.09	3.54	30.55	
MWA-81i	9/6/2024	8:15:00 AM	Intermediate	44.62	34.03	10.59	
PA-10i*	9/6/2024	*	Intermediate	36.67	--	11.37	
PA-11i*	9/6/2024	*	Intermediate	37.63	--	10.35	
PA-12i*	9/6/2024	*	Intermediate	38.03	--	11.65	
PA-13i*	9/6/2024	*	Intermediate	38.48	--	11.27	
PA-14i*	9/6/2024	*	Intermediate	39.30	--	11.34	
PA-15i*	9/6/2024	*	Intermediate	40.62	--	10.62	
PA-16i*	9/6/2024	*	Intermediate	40.30	--	10.06	
PA-17iR*	9/6/2024	*	Intermediate	37.59	--	10.79	
PA-29i*	9/6/2024	*	Intermediate	39.18	--	8.48	
PA-32i	9/6/2024	7:34:00 AM	Intermediate	36.28	24.50	11.78	
PA-34i	9/6/2024	7:31:00 AM	Intermediate	36.02	24.43	11.59	
PA-37i	9/6/2024	9:52:00 AM	Intermediate	36.54	26.90	9.64	
PA-39i	9/6/2024	8:35:00 AM	Intermediate	40.11	29.02	11.09	
PA-40i	9/6/2024	8:33:00 AM	Intermediate	41.47	30.34	11.13	
PA-44i	9/6/2024	8:25:00 AM	Intermediate	40.36	29.51	10.85	
RW-06i*	9/6/2024	*	Intermediate	35.59	--	11.53	
RW-09i*	9/6/2024	*	Intermediate	33.73	--	10.40	
RW-11i*	9/6/2024	*	Intermediate	34.77	--	10.25	
RW-13i*	9/6/2024	*	Intermediate	36.09	--	12.53	
RW-16i*	9/6/2024	*	Intermediate	35.77	--	12.60	
RW-19i*	9/6/2024	*	Intermediate	36.56	--	10.65	
RW-21i*	9/6/2024	*	Intermediate	37.38	--	11.26	
RW-24i*	9/6/2024	*	Intermediate	34.03	--	8.69	
RW-26i*	9/6/2024	*	Intermediate	38.10	--	10.85	
MWA-11i(d)	9/6/2024	9:58:00 AM	Deep	36.49	25.77	10.72	
MWA-12i(d)	9/6/2024	7:49:00 AM	Deep	35.86	11.92	23.94	
MWA-31i(d)	9/6/2024	8:47:00 AM	Deep	38.36	29.60	8.76	
MWA-56d	9/6/2024	8:57:00 AM	Deep	36.68	27.54	9.14	
MWA-58d*	9/6/2024	*	Deep	37.97	--	8.07	
PA-18d*	9/6/2024	*	Deep	36.55	--	9.85	
PA-19d**	9/6/2024	10:18:00 AM	Deep	36.65	27.75	8.90	
PA-20d**	9/6/2024	10:05:00 AM	Deep	37.91	27.43	10.48	
PA-21d**	9/6/2024	10:12:00 AM	Deep	34.36	25.35	9.01	
PA-22d*	9/6/2024	*	Deep	38.75	--	9.81	
PA-23d*	9/6/2024	*	Deep	39.31	--	8.40	
PA-24d*	9/6/2024	*	Deep	39.06	--	8.23	
PA-25d*	9/6/2024	*	Deep	40.44	--	10.83	
PA-26d*	9/6/2024	*	Deep	40.33	--	10.24	
PA-27d*	9/6/2024	*	Deep	37.10	--	9.66	
PA-30d**	9/6/2024	9:54:00 AM	Deep	37.34	27.55	9.79	
MWA-76g	9/6/2024	7:42:00 AM	Gravel	34.96	11.55	23.41	
MWA-77g	9/6/2024	7:14:00 AM	Gravel	34.03	21.03	13.00	

Notes:

^a For monitoring wells with transducers where manual measurements were collected, if drift was 0.1 foot or greater, the transducer was

* = wells with transducers; transducer data were used to obtain groundwater elevation

** = wells with malfunctioning or down transducers, water levels collected manually

NM = Not Measured

ft = feet

NAVD 88 = North American Vertical Datum 1988

Manual measurement data collected in field with tablet.

Transducer data was averaged between 7:04 AM and 10:22 AM for the groundwater elevation value.

Table 3
Field Parameters Measured in Groundwater
Arkema Quarter 3, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

				Analyte Method Unit	pH Field Measure SU	Temperature Field Measure deg C	Specific Conductivity Field Measure uS/cm	Oxidation- Reduction Potential Field Measure mV	Dissolved Oxygen Field Measure mg/L	Turbidity Field Measure NTU
Location ID	Sample Date	Aquifer Classification	Sample ID							
MWA-41	10-Sep-24	Shallow	MWA-41-091024		6.95	14.3	374.8	141.8	3.34	12.03
MWA-63	10-Sep-24	Shallow	MWA-63-091024		6.71	17.2	612	89.7	5.47	6.6
MWA-82	09-Sep-24	Shallow	MWA-82-090924		9.63	15	482.3	75.5	0.84	34.35
PA-03	09-Sep-24	Shallow	PA-03-09092024		10.26	17.3	755	-305.7	0.04	235.3
PA-04	10-Sep-24	Shallow	PA-04-091024		9.88	16.1	689	-65.8	0.31	262.1
PA-08	09-Sep-24	Shallow	PA-08-090924		7.14	18.1	2173	28.3	0.57	30.42
PA-09	09-Sep-24	Shallow	PA-09-090924		7.26	16	439.9	-1.8	2.52	115.8
PA-31	11-Sep-24	Shallow	PA-31-091124		9.56	16.8	752	-101.6	0.18	132.65
MWA-81i	10-Sep-24	Intermediate	MWA-81i-091024		6.62	14.5	391.1	74.3	0.84	47.33
PA-10i	10-Sep-24	Intermediate	PA-10i-091024		7.51	16	774	-183.5	0.11	8.37
PA-15i	09-Sep-24	Intermediate	PA-15i-090924		7.42	16.6	925	-62.1	0.51	55.28
PA-17iR	09-Sep-24	Intermediate	PA-17iR-09092024		9.2	21.7	1204	-252.4	0.1	6.61
PA-32i	11-Sep-24	Intermediate	PA-32i-091124		7.54	17.5	1381	-201.8	0.04	798.5
PA-44i	10-Sep-24	Intermediate	PA-44i-091024		6.46	16.8	1567	21.8	0.1	51.9
MWA-11i(d)	11-Sep-24	Deep	MWA-11i(d)-091124		6.89	17.1	2293	-146.3	0.39	4.15
MWA-31i(d)	10-Sep-24	Deep	MWA-31i(d)-091024		6.52	19	49447	79.8	0.47	7.22
MWA-56d	11-Sep-24	Deep	MWA-56d-091124		6.53	16.9	34217	96.7	0.64	3.31
MWA-58d	11-Sep-24	Deep	MWA-58d-091124		6.57	16.2	48566	52.1	0.61	4.37
PA-18d	09-Sep-24	Deep	PA-18d-090924		8.4	21.4	1175	-168.4	0.08	10.31
PA-19d	11-Sep-24	Deep	PA-19d-091124		7.23	16.3	3938	-25.8	3.92	4.74
PA-20d	11-Sep-24	Deep	PA-20d-091124		6.75	15.8	3524	-24.3	2.42	5.52
PA-22d	11-Sep-24	Deep	PA-22d-091124		7.06	15.7	19689	155.3	0.69	8.86
PA-23d	10-Sep-24	Deep	PA-23d-091024		7	16.9	92119	-64.5	0.73	43.93
PA-24d	10-Sep-24	Deep	PA-24d-091024		6.68	17.4	89928	-42.9	0.95	34.44
PA-25d	09-Sep-24	Deep	PA-25d-090924		7.11	17.8	815	-47.8	0.91	89.61
PA-26d	09-Sep-24	Deep	PA-26d-090924		6.95	17	721	-69.1	0.98	9.24
PA-27d	09-Sep-24	Deep	PA-27d-09092024		6.87	19.3	3733	-112.2	0.26	5.67
PA-30d	11-Sep-24	Deep	PA-30d-091124		8.12	18.1	3383	-129.7	0.28	109.41

Notes:
uS/cm = microSiemens per centimeter
deg C = degrees Celsius
mg/L = milligrams per liter
mV = millivolts
NTU = nephelometric turbidity units
SU = standard units
NM = not measured

Table 4
Volatile Organic Compounds Results
Arkema Quarter 3, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Analyte Unit					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	1,2,4-Trimethylbenzene
FSWP SHSC (shaded values indicate results above the value shown)					NE	11	0.4	1.6	47	710	NE	NE	NE	0.076	NE
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID											
MWA-41	9/10/2024	N	Shallow	MWA-41-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
MWA-63	9/10/2024	N	Shallow	MWA-63-091024	< 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	< 0.61 U
MWA-82	9/9/2024	N	Shallow	MWA-82-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-03	9/9/2024	N	Shallow	PA-03-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.16 j	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-04	9/10/2024	N	Shallow	PA-04-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.29	0.25	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-08	9/9/2024	N	Shallow	PA-08-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.11 j	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-09	9/9/2024	N	Shallow	PA-09-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-31	9/11/2024	N	Shallow	PA-31-091124	< 0.11 U	0.22	< 0.056 U	< 0.070 U	0.21	0.80 J+	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
MWA-81i	9/10/2024	N	Intermediate	MWA-81i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-10i	9/10/2024	N	Intermediate	PA-10i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-10i	9/10/2024	FD	Intermediate	DUP-01-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-15i	9/9/2024	N	Intermediate	PA-15i-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.19 j	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-17iR	9/9/2024	N	Intermediate	PA-17iR-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.097 j	0.14 j	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-32i	9/11/2024	N	Intermediate	PA-32i-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.084 j	0.065 J+	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-44i	9/10/2024	N	Intermediate	PA-44i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.26	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
MWA-11i(d)	9/11/2024	N	Deep	MWA-11d(d)-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
MWA-31i(d)	9/10/2024	N	Deep	MWA-31i(d)-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.43 j	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U
MWA-56d	9/11/2024	N	Deep	MWA-56d-091124	< 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	< 6.1 U
MWA-56d	9/11/2024	FD	Deep	DUP-02-091124	< 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	< 6.1 U
MWA-58d	9/11/2024	N	Deep	MWA-58d-091124	< 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	< 6.1 U
PA-18d	9/9/2024	N	Deep	PA-18d-090924	< 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	< 0.61 U
PA-19d	9/11/2024	N	Deep	PA-19d-091124	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 150 U	< 220 U	< 210 U	< 170 U	< 310 U
PA-20d	9/11/2024	N	Deep	PA-20d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.53 j	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U
PA-22d	9/11/2024	N	Deep	PA-22d-091124	< 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	< 0.61 U
PA-23d	9/10/2024	N	Deep	PA-23d-091024	< 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	< 0.61 U
PA-24d	9/10/2024	N	Deep	PA-24d-091024	< 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	< 0.61 U
PA-25d	9/9/2024	N	Deep	PA-25d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-26d	9/9/2024	N	Deep	PA-26d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.084 U	< 0.47 U	< 0.050 U	< 0.36 U	< 0.23 U
PA-27d	9/9/2024	N	Deep	PA-27d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.28 j	< 0.28 U	< 0.29 U	< 0.43 U	< 0.41 U	< 0.33 U	< 0.61 U
PA-30d	9/11/2024	N	Deep	PA-30d-091124	< 180 U	< 390 U	< 520 U	< 240 U	< 220 U	< 280 U	< 290 U	< 430 U	< 410 U	< 330 U	< 610 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
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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 3, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Analyte Unit					1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dibromo-3-chloropropane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene
FSWP SHSC (shaded values indicate results above the value shown)					NE	11	0.4	1.6	47	710	NE	14	3.7	1.5	NE
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID											
MWA-41	9/10/2024	N	Shallow	MWA-41-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
MWA-63	9/10/2024	N	Shallow	MWA-63-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U
MWA-82	9/9/2024	N	Shallow	MWA-82-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
PA-03	9/9/2024	N	Shallow	PA-03-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.16 j	< 0.035 U	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
PA-04	9/10/2024	N	Shallow	PA-04-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.29	0.25	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
PA-08	9/9/2024	N	Shallow	PA-08-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.11 j	< 0.035 U	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
PA-09	9/9/2024	N	Shallow	PA-09-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
PA-31	9/11/2024	N	Shallow	PA-31-091124	< 0.11 U	0.22	< 0.056 U	< 0.070 U	0.21	0.80 J+	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
MWA-81i	9/10/2024	N	Intermediate	MWA-81i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
PA-10i	9/10/2024	N	Intermediate	PA-10i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.48 U	0.14 j	< 0.12 U	< 0.060 U	< 0.19 U
PA-10i	9/10/2024	FD	Intermediate	DUP-01-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.48 U	0.17 j	< 0.12 U	< 0.060 U	< 0.19 U
PA-15i	9/9/2024	N	Intermediate	PA-15i-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.19 j	< 0.035 U	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
PA-17iR	9/9/2024	N	Intermediate	PA-17iR-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.097 j	0.14 j	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
PA-32i	9/11/2024	N	Intermediate	PA-32i-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.084 j	0.065 J+	< 0.48 U	0.20 j	< 0.12 U	< 0.060 U	< 0.19 U
PA-44i	9/10/2024	N	Intermediate	PA-44i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.26	< 0.035 U	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
MWA-11i(d)	9/11/2024	N	Deep	MWA-11d(d)-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
MWA-31i(d)	9/10/2024	N	Deep	MWA-31i(d)-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.43 j	< 0.28 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U
MWA-56d	9/11/2024	N	Deep	MWA-56d-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.7 U	< 4.6 U	< 4.2 U	< 1.8 U	< 5.5 U
MWA-56d	9/11/2024	FD	Deep	DUP-02-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.7 U	< 4.6 U	< 4.2 U	< 1.8 U	< 5.5 U
MWA-58d	9/11/2024	N	Deep	MWA-58d-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.7 U	< 4.6 U	< 4.2 U	< 1.8 U	< 5.5 U
PA-18d	9/9/2024	N	Deep	PA-18d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U
PA-19d	9/11/2024	N	Deep	PA-19d-091124	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 290 U	< 230 U	< 210 U	< 90 U	< 280 U
PA-20d	9/11/2024	N	Deep	PA-20d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.53 j	< 0.28 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U
PA-22d	9/11/2024	N	Deep	PA-22d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U
PA-23d	9/10/2024	N	Deep	PA-23d-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U
PA-24d	9/10/2024	N	Deep	PA-24d-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.57 U	< 0.46 U	0.77 j	< 0.18 U	< 0.55 U
PA-25d	9/9/2024	N	Deep	PA-25d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.48 U	< 0.038 U	< 0.12 U	< 0.060 U	< 0.19 U
PA-26d	9/9/2024	N	Deep	PA-26d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.48 U	< 0.038 U	0.29	< 0.060 U	< 0.19 U
PA-27d	9/9/2024	N	Deep	PA-27d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.28 j	< 0.28 U	< 0.57 U	< 0.46 U	< 0.42 U	< 0.18 U	< 0.55 U
PA-30d	9/11/2024	N	Deep	PA-30d-091124	< 180 U	< 390 U	< 520 U	< 240 U	< 220 U	< 280 U	< 570 U	< 460 U	< 420 U	< 180 U	< 550 U

Notes:
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µg/L = micrograms per liter
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SW8260C analyses performed by TestAmerica - Seattle, WA of Seattle.

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Table 4
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Arkema Inc. Facility
Portland, Oregon

Analyte Unit					1,1,1,2-Tetrachloroethane	1,1,1,1-Trichloroethane	1,1,1,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Butanone (Methyl ethyl ketone)
FSWP SHSC (shaded values indicate results above the value shown)					NE	11	0.4	1.6	47	710	10	NE	15	NE	14000
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID											
MWA-41	9/10/2024	N	Shallow	MWA-41-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
MWA-63	9/10/2024	N	Shallow	MWA-63-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U	< 4.7 U
MWA-82	9/9/2024	N	Shallow	MWA-82-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 UJ
PA-03	9/9/2024	N	Shallow	PA-03-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.16 j	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 UJ
PA-04	9/10/2024	N	Shallow	PA-04-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.29	0.25	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
PA-08	9/9/2024	N	Shallow	PA-08-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.11 j	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 UJ
PA-09	9/9/2024	N	Shallow	PA-09-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 UJ
PA-31	9/11/2024	N	Shallow	PA-31-091124	< 0.11 U	0.22	< 0.056 U	< 0.070 U	0.21	0.80 J+	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
MWA-81i	9/10/2024	N	Intermediate	MWA-81i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
PA-10i	9/10/2024	N	Intermediate	PA-10i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
PA-10i	9/10/2024	FD	Intermediate	DUP-01-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
PA-15i	9/9/2024	N	Intermediate	PA-15i-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.19 j	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 UJ
PA-17iR	9/9/2024	N	Intermediate	PA-17iR-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.097 j	0.14 j	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 UJ
PA-32i	9/11/2024	N	Intermediate	PA-32i-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.084 j	0.065 J+	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
PA-44i	9/10/2024	N	Intermediate	PA-44i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.26	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
MWA-11i(d)	9/11/2024	N	Deep	MWA-11d(d)-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 U
MWA-31i(d)	9/10/2024	N	Deep	MWA-31i(d)-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.43 j	< 0.28 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U	< 4.7 U
MWA-56d	9/11/2024	N	Deep	MWA-56d-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 4.8 U	< 3.5 U	< 4.6 U	< 3.2 U	< 47 U
MWA-56d	9/11/2024	FD	Deep	DUP-02-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 4.8 U	< 3.5 U	< 4.6 U	< 3.2 U	< 47 U
MWA-58d	9/11/2024	N	Deep	MWA-58d-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 4.8 U	< 3.5 U	< 4.6 U	< 3.2 U	< 47 U
PA-18d	9/9/2024	N	Deep	PA-18d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U	< 4.7 UJ
PA-19d	9/11/2024	N	Deep	PA-19d-091124	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 240 U	< 180 U	< 230 U	< 160 U	< 2,400 U
PA-20d	9/11/2024	N	Deep	PA-20d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.53 j	< 0.28 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U	< 4.7 U
PA-22d	9/11/2024	N	Deep	PA-22d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U	< 4.7 U
PA-23d	9/10/2024	N	Deep	PA-23d-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U	< 4.7 U
PA-24d	9/10/2024	N	Deep	PA-24d-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U	< 4.7 U
PA-25d	9/9/2024	N	Deep	PA-25d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 UJ
PA-26d	9/9/2024	N	Deep	PA-26d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.050 U	< 0.056 U	< 0.050 U	< 0.060 U	< 2.5 UJ
PA-27d	9/9/2024	N	Deep	PA-27d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.28 j	< 0.28 U	< 0.48 U	< 0.35 U	< 0.46 U	< 0.32 U	< 4.7 UJ
PA-30d	9/11/2024	N	Deep	PA-30d-091124	< 180 U	< 390 U	< 520 U	< 240 U	< 220 U	< 280 U	< 480 U	< 350 U	< 460 U	< 320 U	< 4,700 U

Notes:
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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	4-Chlorotoluene	4-Isopropyltoluene	4-Methyl-2-pentanone	Acetone	Benzene
Unit					µg/L	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	1500	1.4
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID											
MWA-41	9/10/2024	N	Shallow	MWA-41-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.12 U	< 0.25 U	< 2.7 U	< 3.1 U	< 0.030 U
MWA-63	9/10/2024	N	Shallow	MWA-63-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U
MWA-82	9/9/2024	N	Shallow	MWA-82-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.12 U	< 0.25 U	< 2.7 U	< 3.1 U	< 0.030 U
PA-03	9/9/2024	N	Shallow	PA-03-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.16 j	< 0.035 U	< 0.12 U	< 0.25 U	< 2.7 U	< 3.1 U	0.059 j
PA-04	9/10/2024	N	Shallow	PA-04-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.29	0.25	< 0.12 U	< 0.25 U	< 2.7 U	< 3.1 U	< 0.030 U
PA-08	9/9/2024	N	Shallow	PA-08-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.11 j	< 0.035 U	< 0.12 U	< 0.25 U	< 2.7 U	< 3.1 U	< 0.030 U
PA-09	9/9/2024	N	Shallow	PA-09-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.12 U	< 0.25 U	< 2.7 U	< 3.1 U	< 0.030 U
PA-31	9/11/2024	N	Shallow	PA-31-091124	< 0.11 U	0.22	< 0.056 U	< 0.070 U	0.21	0.80 J+	< 0.12 U	< 0.25 U	< 2.7 U	< 3.1 U	< 0.20 U
MWA-81i	9/10/2024	N	Intermediate	MWA-81i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.12 U	< 0.25 U	< 2.7 U	< 3.1 U	< 0.030 U
PA-10i	9/10/2024	N	Intermediate	PA-10i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.12 U	< 0.25 U	< 2.7 U	< 3.1 U	< 0.030 U
PA-10i	9/10/2024	FD	Intermediate	DUP-01-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.12 U	< 0.25 U	< 2.7 U	< 3.1 U	< 0.030 U
PA-15i	9/9/2024	N	Intermediate	PA-15i-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.19 j	< 0.035 U	< 0.12 U	< 0.25 U	< 2.7 U	< 3.1 U	< 0.030 U
PA-17iR	9/9/2024	N	Intermediate	PA-17iR-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.097 j	0.14 j	< 0.12 U	< 0.25 U	< 2.7 U	< 3.1 U	0.078 j
PA-32i	9/11/2024	N	Intermediate	PA-32i-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.084 j	0.065 J+	< 0.12 U	< 0.25 U	< 2.7 U	< 3.1 U	< 0.20 U
PA-44i	9/10/2024	N	Intermediate	PA-44i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.26	< 0.035 U	< 0.12 U	< 0.25 U	< 2.7 U	< 3.1 U	< 0.030 U
MWA-11i(d)	9/11/2024	N	Deep	MWA-11d(d)-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.12 U	< 0.25 U	< 2.7 U	< 3.1 U	< 0.030 U
MWA-31i(d)	9/10/2024	N	Deep	MWA-31i(d)-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.43 j	< 0.28 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U
MWA-56d	9/11/2024	N	Deep	MWA-56d-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 3.8 U	< 2.8 U	< 25 U	32 j	< 2.4 U
MWA-56d	9/11/2024	FD	Deep	DUP-02-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 3.8 U	< 2.8 U	< 25 U	< 32 U	< 2.4 U
MWA-58d	9/11/2024	N	Deep	MWA-58d-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 3.8 U	< 2.8 U	< 25 U	39 j	< 2.4 U
PA-18d	9/9/2024	N	Deep	PA-18d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U
PA-19d	9/11/2024	N	Deep	PA-19d-091124	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 190 U	< 140 U	< 1,300 U	< 1,600 U	< 120 U
PA-20d	9/11/2024	N	Deep	PA-20d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.53 j	< 0.28 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U
PA-22d	9/11/2024	N	Deep	PA-22d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U
PA-23d	9/10/2024	N	Deep	PA-23d-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U
PA-24d	9/10/2024	N	Deep	PA-24d-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U
PA-25d	9/9/2024	N	Deep	PA-25d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.12 U	< 0.25 U	< 2.7 U	< 3.1 U	< 0.030 U
PA-26d	9/9/2024	N	Deep	PA-26d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.12 U	< 0.25 U	< 2.7 U	< 3.1 U	< 0.030 U
PA-27d	9/9/2024	N	Deep	PA-27d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.28 j	< 0.28 U	< 0.38 U	< 0.28 U	< 2.5 U	< 3.2 U	< 0.24 U
PA-30d	9/11/2024	N	Deep	PA-30d-091124	< 180 U	< 390 U	< 520 U	< 240 U	< 220 U	< 280 U	< 380 U	< 280 U	< 2,500 U	< 3,200 U	< 240 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 3, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Analyte Unit					1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	Bromobenzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon disulfide
FSWP SHSC (shaded values indicate results above the value shown)					NE	11	0.4	1.6	47	710	NE	1.7	14	150	0.92
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID											
MWA-41	9/10/2024	N	Shallow	MWA-41-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
MWA-63	9/10/2024	N	Shallow	MWA-63-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U	< 0.53 U
MWA-82	9/9/2024	N	Shallow	MWA-82-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-03	9/9/2024	N	Shallow	PA-03-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.16 j	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-04	9/10/2024	N	Shallow	PA-04-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.29	0.25	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-08	9/9/2024	N	Shallow	PA-08-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.11 j	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-09	9/9/2024	N	Shallow	PA-09-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-31	9/11/2024	N	Shallow	PA-31-091124	< 0.11 U	0.22	< 0.056 U	< 0.070 U	0.21	0.80 J+	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
MWA-81i	9/10/2024	N	Intermediate	MWA-81i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-10i	9/10/2024	N	Intermediate	PA-10i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-10i	9/10/2024	FD	Intermediate	DUP-01-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-15i	9/9/2024	N	Intermediate	PA-15i-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.19 j	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-17iR	9/9/2024	N	Intermediate	PA-17iR-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.097 j	0.14 j	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	0.23 j
PA-32i	9/11/2024	N	Intermediate	PA-32i-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.084 j	0.065 J+	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-44i	9/10/2024	N	Intermediate	PA-44i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.26	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
MWA-11i(d)	9/11/2024	N	Deep	MWA-11d(d)-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
MWA-31i(d)	9/10/2024	N	Deep	MWA-31i(d)-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.43 j	< 0.28 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U	< 0.53 U
MWA-56d	9/11/2024	N	Deep	MWA-56d-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 4.3 U	< 2.9 U	< 5.1 U	< 2.1 U	< 5.3 U
MWA-56d	9/11/2024	FD	Deep	DUP-02-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 4.3 U	< 2.9 U	< 5.1 U	< 2.1 U	< 5.3 U
MWA-58d	9/11/2024	N	Deep	MWA-58d-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 4.3 U	< 2.9 U	< 5.1 U	< 2.1 U	< 5.3 U
PA-18d	9/9/2024	N	Deep	PA-18d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U	< 0.53 U
PA-19d	9/11/2024	N	Deep	PA-19d-091124	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 220 U	< 150 U	< 260 U	< 110 U	< 270 U
PA-20d	9/11/2024	N	Deep	PA-20d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.53 j	< 0.28 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U	< 0.53 U
PA-22d	9/11/2024	N	Deep	PA-22d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U	< 0.53 U
PA-23d	9/10/2024	N	Deep	PA-23d-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U	< 0.53 U
PA-24d	9/10/2024	N	Deep	PA-24d-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U	< 0.53 U
PA-25d	9/9/2024	N	Deep	PA-25d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-26d	9/9/2024	N	Deep	PA-26d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.038 U	< 0.060 U	< 0.16 U	< 0.13 U	< 0.20 U
PA-27d	9/9/2024	N	Deep	PA-27d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.28 j	< 0.28 U	< 0.43 U	< 0.29 U	< 0.51 U	< 0.21 U	< 0.53 U
PA-30d	9/11/2024	N	Deep	PA-30d-091124	< 180 U	< 390 U	< 520 U	< 240 U	< 220 U	< 280 U	< 430 U	< 290 U	< 510 U	< 210 U	< 530 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 3, 2024, 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	Carbon tetrachloride	Chlorobenzene	Chlorobromomethane	Chloroethane	Chloroform
Unit					µg/L	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	0.16	64	NE	NE	28
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID											
MWA-41	9/10/2024	N	Shallow	MWA-41-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	< 0.030 U
MWA-63	9/10/2024	N	Shallow	MWA-63-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	100
MWA-82	9/9/2024	N	Shallow	MWA-82-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	1.6
PA-03	9/9/2024	N	Shallow	PA-03-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.16 j	< 0.035 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	< 0.030 U
PA-04	9/10/2024	N	Shallow	PA-04-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.29	0.25	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	0.033 j
PA-08	9/9/2024	N	Shallow	PA-08-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.11 j	< 0.035 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	0.061 j
PA-09	9/9/2024	N	Shallow	PA-09-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	0.18 j
PA-31	9/11/2024	N	Shallow	PA-31-091124	< 0.11 U	0.22	< 0.056 U	< 0.070 U	0.21	0.80 J+	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	0.045 j
MWA-81i	9/10/2024	N	Intermediate	MWA-81i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	< 0.030 U
PA-10i	9/10/2024	N	Intermediate	PA-10i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	< 0.030 U
PA-10i	9/10/2024	FD	Intermediate	DUP-01-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	< 0.030 U
PA-15i	9/9/2024	N	Intermediate	PA-15i-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.19 j	< 0.035 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	< 0.030 U
PA-17iR	9/9/2024	N	Intermediate	PA-17iR-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.097 j	0.14 j	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	< 0.030 U
PA-32i	9/11/2024	N	Intermediate	PA-32i-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.084 j	0.065 J+	< 0.025 U	0.21	< 0.050 U	0.42 j	< 0.030 U
PA-44i	9/10/2024	N	Intermediate	PA-44i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.26	< 0.035 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	< 0.030 U
MWA-11i(d)	9/11/2024	N	Deep	MWA-11d(d)-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	< 0.030 U
MWA-31i(d)	9/10/2024	N	Deep	MWA-31i(d)-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.43 j	< 0.28 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	63
MWA-56d	9/11/2024	N	Deep	MWA-56d-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 3.0 U	< 4.4 U	< 2.9 U	< 3.5 U	150
MWA-56d	9/11/2024	FD	Deep	DUP-02-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 3.0 U	< 4.4 U	< 2.9 U	< 3.5 U	160
MWA-58d	9/11/2024	N	Deep	MWA-58d-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 3.0 U	< 4.4 U	< 2.9 U	< 3.5 U	200
PA-18d	9/9/2024	N	Deep	PA-18d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	< 0.26 U
PA-19d	9/11/2024	N	Deep	PA-19d-091124	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 150 U	6,300	< 150 U	< 180 U	< 130 U
PA-20d	9/11/2024	N	Deep	PA-20d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.53 j	< 0.28 U	< 0.30 U	2.7	< 0.29 U	< 0.35 U	< 0.26 U
PA-22d	9/11/2024	N	Deep	PA-22d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	14
PA-23d	9/10/2024	N	Deep	PA-23d-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	< 0.26 U
PA-24d	9/10/2024	N	Deep	PA-24d-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	< 0.26 U
PA-25d	9/9/2024	N	Deep	PA-25d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	< 0.030 U
PA-26d	9/9/2024	N	Deep	PA-26d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.025 U	< 0.060 U	< 0.050 U	< 0.24 U	< 0.030 U
PA-27d	9/9/2024	N	Deep	PA-27d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.28 j	< 0.28 U	< 0.30 U	< 0.44 U	< 0.29 U	< 0.35 U	< 0.26 U
PA-30d	9/11/2024	N	Deep	PA-30d-091124	< 180 U	< 390 U	< 520 U	< 240 U	< 220 U	< 280 U	< 300 U	8,200	< 290 U	< 350 U	< 260 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 3, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Analyte Unit					1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloro methane	Dibromomethane
FSWP SHSC (shaded values indicate results above the value shown)					NE	11	0.4	1.6	47	710	NE	590	NE	1.3	NE
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID											
MWA-41	9/10/2024	N	Shallow	MWA-41-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U	< 0.062 U
MWA-63	9/10/2024	N	Shallow	MWA-63-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.28 U	3.6	< 0.42 U	< 0.43 U	< 0.34 U
MWA-82	9/9/2024	N	Shallow	MWA-82-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U	< 0.062 U
PA-03	9/9/2024	N	Shallow	PA-03-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.16 j	< 0.035 U	0.29 j	< 0.055 U	< 0.090 U	< 0.055 U	< 0.062 U
PA-04	9/10/2024	N	Shallow	PA-04-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.29	0.25	0.20 j	< 0.055 U	< 0.090 U	< 0.055 U	< 0.062 U
PA-08	9/9/2024	N	Shallow	PA-08-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.11 j	< 0.035 U	< 0.14 U	0.15 j	< 0.090 U	< 0.055 U	< 0.062 U
PA-09	9/9/2024	N	Shallow	PA-09-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U	< 0.062 U
PA-31	9/11/2024	N	Shallow	PA-31-091124	< 0.11 U	0.22	< 0.056 U	< 0.070 U	0.21	0.80 J+	0.30 j	< 0.055 U	< 0.090 U	< 0.055 U	< 0.062 U
MWA-81i	9/10/2024	N	Intermediate	MWA-81i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U	< 0.062 U
PA-10i	9/10/2024	N	Intermediate	PA-10i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.14 U	0.17 j	< 0.090 U	< 0.055 U	< 0.062 U
PA-10i	9/10/2024	FD	Intermediate	DUP-01-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.14 U	0.14 j	< 0.090 U	< 0.055 U	< 0.062 U
PA-15i	9/9/2024	N	Intermediate	PA-15i-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.19 j	< 0.035 U	< 0.14 U	0.077 j	< 0.090 U	< 0.055 U	< 0.062 U
PA-17iR	9/9/2024	N	Intermediate	PA-17iR-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.097 j	0.14 j	< 0.14 U	0.10 j	< 0.090 U	< 0.055 U	< 0.062 U
PA-32i	9/11/2024	N	Intermediate	PA-32i-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.084 j	0.065 J+	0.28 j	0.094 j	< 0.090 U	< 0.055 U	< 0.062 U
PA-44i	9/10/2024	N	Intermediate	PA-44i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.26	< 0.035 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U	< 0.062 U
MWA-11i(d)	9/11/2024	N	Deep	MWA-11d(d)-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.14 U	0.12 j	< 0.090 U	< 0.055 U	< 0.062 U
MWA-31i(d)	9/10/2024	N	Deep	MWA-31i(d)-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.43 j	< 0.28 U	< 0.28 U	< 0.35 U	< 0.42 U	< 0.43 U	< 0.34 U
MWA-56d	9/11/2024	N	Deep	MWA-56d-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 2.8 U	< 3.5 U	< 4.2 U	< 4.3 U	< 3.4 U
MWA-56d	9/11/2024	FD	Deep	DUP-02-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 2.8 U	< 3.5 U	< 4.2 U	< 4.3 U	< 3.4 U
MWA-58d	9/11/2024	N	Deep	MWA-58d-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 2.8 U	< 3.5 U	< 4.2 U	< 4.3 U	< 3.4 U
PA-18d	9/9/2024	N	Deep	PA-18d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.28 U	< 0.35 U	< 0.42 U	< 0.43 U	< 0.34 U
PA-19d	9/11/2024	N	Deep	PA-19d-091124	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 140 U	< 180 U	< 210 U	< 220 U	< 170 U
PA-20d	9/11/2024	N	Deep	PA-20d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.53 j	< 0.28 U	< 0.28 U	< 0.35 U	< 0.42 U	< 0.43 U	< 0.34 U
PA-22d	9/11/2024	N	Deep	PA-22d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.28 U	< 0.35 U	< 0.42 U	< 0.43 U	< 0.34 U
PA-23d	9/10/2024	N	Deep	PA-23d-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.28 U	< 0.35 U	< 0.42 U	< 0.43 U	< 0.34 U
PA-24d	9/10/2024	N	Deep	PA-24d-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.28 U	< 0.35 U	< 0.42 U	< 0.43 U	< 0.34 U
PA-25d	9/9/2024	N	Deep	PA-25d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U	< 0.062 U
PA-26d	9/9/2024	N	Deep	PA-26d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.14 U	< 0.055 U	< 0.090 U	< 0.055 U	< 0.062 U
PA-27d	9/9/2024	N	Deep	PA-27d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.28 j	< 0.28 U	< 0.28 U	0.67 j	< 0.42 U	< 0.43 U	< 0.34 U
PA-30d	9/11/2024	N	Deep	PA-30d-091124	< 180 U	< 390 U	< 520 U	< 240 U	< 220 U	< 280 U	< 280 U	< 350 U	< 420 U	< 430 U	< 340 U

Notes:
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µg/L = micrograms per liter
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SW8260C analyses performed by TestAmerica - Seattle, WA of Seattle.

Qualifiers - Organic:
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Table 4
Volatile Organic Compounds Results
Arkema Quarter 3, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Analyte					1,1,1,2-Tetrachloroethane	1,1,1,1-Trichloroethane	1,1,1,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	Dichlorodifluoromethane (Freon 12)	Ethylbenzene	Ethylene dibromide	Hexachlorobutadiene	Isopropylbenzene (Cumene)
Unit					µg/L	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	7.3	NE	0.01	NE
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID											
MWA-41	9/10/2024	N	Shallow	MWA-41-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
MWA-63	9/10/2024	N	Shallow	MWA-63-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.53 U	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U
MWA-82	9/9/2024	N	Shallow	MWA-82-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-03	9/9/2024	N	Shallow	PA-03-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.16 j	< 0.035 U	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-04	9/10/2024	N	Shallow	PA-04-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.29	0.25	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-08	9/9/2024	N	Shallow	PA-08-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.11 j	< 0.035 U	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-09	9/9/2024	N	Shallow	PA-09-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-31	9/11/2024	N	Shallow	PA-31-091124	< 0.11 U	0.22	< 0.056 U	< 0.070 U	0.21	0.80 J+	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 UJ	< 0.27 U
MWA-81i	9/10/2024	N	Intermediate	MWA-81i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 UF1
PA-10i	9/10/2024	N	Intermediate	PA-10i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-10i	9/10/2024	FD	Intermediate	DUP-01-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-15i	9/9/2024	N	Intermediate	PA-15i-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.19 j	< 0.035 U	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-17iR	9/9/2024	N	Intermediate	PA-17iR-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.097 j	0.14 j	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-32i	9/11/2024	N	Intermediate	PA-32i-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.084 j	0.065 J+	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 UJ	< 0.27 U
PA-44i	9/10/2024	N	Intermediate	PA-44i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.26	< 0.035 U	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
MWA-11i(d)	9/11/2024	N	Deep	MWA-11d(d)-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
MWA-31i(d)	9/10/2024	N	Deep	MWA-31i(d)-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.43 j	< 0.28 U	< 0.53 U	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U
MWA-56d	9/11/2024	N	Deep	MWA-56d-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.3 U	< 5.0 U	< 4.0 U	< 7.9 U	< 4.4 U
MWA-56d	9/11/2024	FD	Deep	DUP-02-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.3 U	< 5.0 U	< 4.0 U	< 7.9 U	< 4.4 U
MWA-58d	9/11/2024	N	Deep	MWA-58d-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.3 U	< 5.0 U	< 4.0 U	< 7.9 U	< 4.4 UF1
PA-18d	9/9/2024	N	Deep	PA-18d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.53 U	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U
PA-19d	9/11/2024	N	Deep	PA-19d-091124	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 270 U	< 250 U	< 200 U	< 400 U	< 220 U
PA-20d	9/11/2024	N	Deep	PA-20d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.53 j	< 0.28 U	< 0.53 U	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U
PA-22d	9/11/2024	N	Deep	PA-22d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.53 U	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U
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PA-24d	9/10/2024	N	Deep	PA-24d-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.53 U	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U
PA-25d	9/9/2024	N	Deep	PA-25d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-26d	9/9/2024	N	Deep	PA-26d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.13 U	< 0.082 U	< 0.067 U	< 0.16 U	< 0.27 U
PA-27d	9/9/2024	N	Deep	PA-27d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.28 j	< 0.28 U	< 0.53 U	< 0.50 U	< 0.40 U	< 0.79 U	< 0.44 U
PA-30d	9/11/2024	N	Deep	PA-30d-091124	< 180 U	< 390 U	< 520 U	< 240 U	< 220 U	< 280 U	< 530 U	< 500 U	< 400 U	< 790 U	< 440 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
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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	m,p-Xylenes	Methyl tert-butyl ether	Methylene chloride	Naphthalene	n-Butylbenzene
Unit					µg/L	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	1.8	NE	59	12	NE
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID											
MWA-41	9/10/2024	N	Shallow	MWA-41-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
MWA-63	9/10/2024	N	Shallow	MWA-63-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.53 U	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U
MWA-82	9/9/2024	N	Shallow	MWA-82-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-03	9/9/2024	N	Shallow	PA-03-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.16 j	< 0.035 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-04	9/10/2024	N	Shallow	PA-04-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.29	0.25	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-08	9/9/2024	N	Shallow	PA-08-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.11 j	< 0.035 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-09	9/9/2024	N	Shallow	PA-09-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-31	9/11/2024	N	Shallow	PA-31-091124	< 0.11 U	0.22	< 0.056 U	< 0.070 U	0.21	0.80 J+	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
MWA-81i	9/10/2024	N	Intermediate	MWA-81i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-10i	9/10/2024	N	Intermediate	PA-10i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-10i	9/10/2024	FD	Intermediate	DUP-01-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-15i	9/9/2024	N	Intermediate	PA-15i-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.19 j	< 0.035 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-17iR	9/9/2024	N	Intermediate	PA-17iR-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.097 j	0.14 j	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-32i	9/11/2024	N	Intermediate	PA-32i-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.084 j	0.065 J+	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-44i	9/10/2024	N	Intermediate	PA-44i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.26	< 0.035 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
MWA-11i(d)	9/11/2024	N	Deep	MWA-11d(d)-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
MWA-31i(d)	9/10/2024	N	Deep	MWA-31i(d)-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.43 j	< 0.28 U	< 0.53 U	< 0.44 U	1.9 j	< 0.93 U	< 0.44 U
MWA-56d	9/11/2024	N	Deep	MWA-56d-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.3 U	< 4.4 U	< 14 U	< 9.3 U	< 4.4 U
MWA-56d	9/11/2024	FD	Deep	DUP-02-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.3 U	< 4.4 U	< 14 U	< 9.3 U	< 4.4 U
MWA-58d	9/11/2024	N	Deep	MWA-58d-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.3 U	< 4.4 U	< 14 U	< 9.3 U	< 4.4 U
PA-18d	9/9/2024	N	Deep	PA-18d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.53 U	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U
PA-19d	9/11/2024	N	Deep	PA-19d-091124	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 270 U	< 220 U	< 720 U	< 470 U	< 220 U
PA-20d	9/11/2024	N	Deep	PA-20d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.53 j	< 0.28 U	< 0.53 U	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U
PA-22d	9/11/2024	N	Deep	PA-22d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.53 U	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U
PA-23d	9/10/2024	N	Deep	PA-23d-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.53 U	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U
PA-24d	9/10/2024	N	Deep	PA-24d-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.53 U	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U
PA-25d	9/9/2024	N	Deep	PA-25d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.12 U	< 0.070 U	< 1.2 U	< 0.52 U	< 0.35 U
PA-26d	9/9/2024	N	Deep	PA-26d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.12 U	0.14 j	< 1.2 U	< 0.52 U	< 0.35 U
PA-27d	9/9/2024	N	Deep	PA-27d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.28 j	< 0.28 U	< 0.53 U	< 0.44 U	< 1.4 U	< 0.93 U	< 0.44 U
PA-30d	9/11/2024	N	Deep	PA-30d-091124	< 180 U	< 390 U	< 520 U	< 240 U	< 220 U	< 280 U	< 530 U	< 440 U	< 1,400 U	< 930 U	< 440 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 3, 2024, 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	n-Propylbenzene	o-Chlorotoluene (2-chlorotoluene)	o-Xylene	sec-Butylbenzene	Styrene
Unit					µg/L	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	13	NE	NE
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID											
MWA-41	9/10/2024	N	Shallow	MWA-41-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
MWA-63	9/10/2024	N	Shallow	MWA-63-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U	< 0.53 U
MWA-82	9/9/2024	N	Shallow	MWA-82-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-03	9/9/2024	N	Shallow	PA-03-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.16 j	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-04	9/10/2024	N	Shallow	PA-04-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.29	0.25	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-08	9/9/2024	N	Shallow	PA-08-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.11 j	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-09	9/9/2024	N	Shallow	PA-09-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-31	9/11/2024	N	Shallow	PA-31-091124	< 0.11 U	0.22	< 0.056 U	< 0.070 U	0.21	0.80 J+	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
MWA-81i	9/10/2024	N	Intermediate	MWA-81i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-10i	9/10/2024	N	Intermediate	PA-10i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-10i	9/10/2024	FD	Intermediate	DUP-01-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-15i	9/9/2024	N	Intermediate	PA-15i-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.19 j	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-17iR	9/9/2024	N	Intermediate	PA-17iR-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.097 j	0.14 j	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-32i	9/11/2024	N	Intermediate	PA-32i-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.084 j	0.065 J+	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-44i	9/10/2024	N	Intermediate	PA-44i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.26	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
MWA-11i(d)	9/11/2024	N	Deep	MWA-11d(d)-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
MWA-31i(d)	9/10/2024	N	Deep	MWA-31i(d)-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.43 j	< 0.28 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U	< 0.53 U
MWA-56d	9/11/2024	N	Deep	MWA-56d-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.0 U	< 5.1 U	< 3.9 U	< 4.9 U	< 5.3 U
MWA-56d	9/11/2024	FD	Deep	DUP-02-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.0 U	< 5.1 U	< 3.9 U	< 4.9 U	< 5.3 U
MWA-58d	9/11/2024	N	Deep	MWA-58d-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.0 U	< 5.1 U	< 3.9 U	< 4.9 U	< 5.3 U
PA-18d	9/9/2024	N	Deep	PA-18d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U	< 0.53 U
PA-19d	9/11/2024	N	Deep	PA-19d-091124	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 250 U	< 260 U	< 200 U	< 250 U	< 270 U
PA-20d	9/11/2024	N	Deep	PA-20d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.53 j	< 0.28 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U	< 0.53 U
PA-22d	9/11/2024	N	Deep	PA-22d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U	< 0.53 U
PA-23d	9/10/2024	N	Deep	PA-23d-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U	< 0.53 U
PA-24d	9/10/2024	N	Deep	PA-24d-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U	< 0.53 U
PA-25d	9/9/2024	N	Deep	PA-25d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-26d	9/9/2024	N	Deep	PA-26d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.091 U	< 0.12 U	< 0.23 U	< 0.17 U	< 0.33 U
PA-27d	9/9/2024	N	Deep	PA-27d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.28 j	< 0.28 U	< 0.50 U	< 0.51 U	< 0.39 U	< 0.49 U	< 0.53 U
PA-30d	9/11/2024	N	Deep	PA-30d-091124	< 180 U	< 390 U	< 520 U	< 240 U	< 220 U	< 280 U	< 500 U	< 510 U	< 390 U	< 490 U	< 530 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 3, 2024, 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	tert-Butylbenzene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene
Unit					µg/L	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	0.33	9.8	1000	NE
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID											
MWA-41	9/10/2024	N	Shallow	MWA-41-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
MWA-63	9/10/2024	N	Shallow	MWA-63-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.58 U	9.9	< 0.39 U	< 0.39 U	< 0.41 U
MWA-82	9/9/2024	N	Shallow	MWA-82-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.26 U	0.34	< 0.050 U	< 0.033 U	< 0.092 U
PA-03	9/9/2024	N	Shallow	PA-03-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.16 j	< 0.035 U	< 0.26 U	< 0.084 U	0.12 j	< 0.033 U	< 0.092 U
PA-04	9/10/2024	N	Shallow	PA-04-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.29	0.25	< 0.26 U	0.14 j	< 0.050 U	< 0.033 U	< 0.092 U
PA-08	9/9/2024	N	Shallow	PA-08-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.11 j	< 0.035 U	< 0.26 U	0.18 j	< 0.050 U	< 0.033 U	< 0.092 U
PA-09	9/9/2024	N	Shallow	PA-09-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.26 U	0.29	< 0.050 U	< 0.033 U	< 0.092 U
PA-31	9/11/2024	N	Shallow	PA-31-091124	< 0.11 U	0.22	< 0.056 U	< 0.070 U	0.21	0.80 J+	< 0.26 U	0.16 j	< 0.050 U	< 0.033 U	< 0.092 U
MWA-81i	9/10/2024	N	Intermediate	MWA-81i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
PA-10i	9/10/2024	N	Intermediate	PA-10i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
PA-10i	9/10/2024	FD	Intermediate	DUP-01-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
PA-15i	9/9/2024	N	Intermediate	PA-15i-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.19 j	< 0.035 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
PA-17iR	9/9/2024	N	Intermediate	PA-17iR-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.097 j	0.14 j	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
PA-32i	9/11/2024	N	Intermediate	PA-32i-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.084 j	0.065 J+	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
PA-44i	9/10/2024	N	Intermediate	PA-44i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.26	< 0.035 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
MWA-11i(d)	9/11/2024	N	Deep	MWA-11d(d)-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
MWA-31i(d)	9/10/2024	N	Deep	MWA-31i(d)-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.43 j	< 0.28 U	< 0.58 U	0.42 j	< 0.39 U	< 0.39 U	< 0.41 U
MWA-56d	9/11/2024	N	Deep	MWA-56d-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.8 U	< 4.1 U	< 3.9 U	< 3.9 U	< 4.1 U
MWA-56d	9/11/2024	FD	Deep	DUP-02-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.8 U	< 4.1 U	< 3.9 U	< 3.9 U	< 4.1 U
MWA-58d	9/11/2024	N	Deep	MWA-58d-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 5.8 U	< 4.1 U	< 3.9 U	< 3.9 U	< 4.1 U
PA-18d	9/9/2024	N	Deep	PA-18d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.58 U	< 0.41 U	< 0.39 U	< 0.39 U	< 0.41 U
PA-19d	9/11/2024	N	Deep	PA-19d-091124	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 290 U	< 210 U	< 200 U	< 200 U	< 210 U
PA-20d	9/11/2024	N	Deep	PA-20d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.53 j	< 0.28 U	< 0.58 U	< 0.41 U	< 0.39 U	< 0.39 U	< 0.41 U
PA-22d	9/11/2024	N	Deep	PA-22d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.58 U	< 0.41 U	< 0.39 U	< 0.39 U	< 0.41 U
PA-23d	9/10/2024	N	Deep	PA-23d-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.58 U	< 0.41 U	< 0.39 U	< 0.39 U	< 0.41 U
PA-24d	9/10/2024	N	Deep	PA-24d-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.58 U	< 0.41 U	< 0.39 U	< 0.39 U	< 0.41 U
PA-25d	9/9/2024	N	Deep	PA-25d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
PA-26d	9/9/2024	N	Deep	PA-26d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.26 U	< 0.084 U	< 0.050 U	< 0.033 U	< 0.092 U
PA-27d	9/9/2024	N	Deep	PA-27d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.28 j	< 0.28 U	< 0.58 U	< 0.41 U	< 0.39 U	< 0.39 U	< 0.41 U
PA-30d	9/11/2024	N	Deep	PA-30d-091124	< 180 U	< 390 U	< 520 U	< 240 U	< 220 U	< 280 U	< 580 U	< 410 U	< 390 U	< 390 U	< 410 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 3, 2024, 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	Trichloroethene	Trichlorofluoromethane (Freon 11)	Vinyl chloride
Unit					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	3	NE	0.24
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID									
MWA-41	9/10/2024	N	Shallow	MWA-41-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.066 U	< 0.12 U	< 0.040 U
MWA-63	9/10/2024	N	Shallow	MWA-63-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	2.6	< 0.36 U	< 0.22 U
MWA-82	9/9/2024	N	Shallow	MWA-82-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	0.12 j	< 0.12 U	< 0.040 U
PA-03	9/9/2024	N	Shallow	PA-03-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.16 j	< 0.035 U	< 0.066 U	< 0.12 U	< 0.040 U
PA-04	9/10/2024	N	Shallow	PA-04-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.29	0.25	< 0.066 U	< 0.12 U	< 0.040 U
PA-08	9/9/2024	N	Shallow	PA-08-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.11 j	< 0.035 U	0.12 j	< 0.12 U	< 0.040 U
PA-09	9/9/2024	N	Shallow	PA-09-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	0.17 j	< 0.12 U	< 0.040 U
PA-31	9/11/2024	N	Shallow	PA-31-091124	< 0.11 U	0.22	< 0.056 U	< 0.070 U	0.21	0.80 J+	0.069 j	< 0.12 U	< 0.040 U
MWA-81i	9/10/2024	N	Intermediate	MWA-81i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.066 U	< 0.12 U	< 0.040 U
PA-10i	9/10/2024	N	Intermediate	PA-10i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.066 U	< 0.12 U	< 0.040 UJ
PA-10i	9/10/2024	FD	Intermediate	DUP-01-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	0.11 j	< 0.066 U	< 0.12 U	0.50 j
PA-15i	9/9/2024	N	Intermediate	PA-15i-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.19 j	< 0.035 U	< 0.066 U	< 0.12 U	< 0.040 U
PA-17iR	9/9/2024	N	Intermediate	PA-17iR-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.097 j	0.14 j	< 0.066 U	< 0.12 U	< 0.040 U
PA-32i	9/11/2024	N	Intermediate	PA-32i-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.084 j	0.065 J+	< 0.066 U	< 0.12 U	0.23
PA-44i	9/10/2024	N	Intermediate	PA-44i-091024	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	0.26	< 0.035 U	< 0.066 U	< 0.12 U	< 0.040 U
MWA-11i(d)	9/11/2024	N	Deep	MWA-11d(d)-091124	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.066 U	< 0.12 U	< 0.040 U
MWA-31i(d)	9/10/2024	N	Deep	MWA-31i(d)-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.43 j	< 0.28 U	< 0.26 U	< 0.36 U	< 0.22 U
MWA-56d	9/11/2024	N	Deep	MWA-56d-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 2.6 U	< 3.6 U	< 2.2 U
MWA-56d	9/11/2024	FD	Deep	DUP-02-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 2.6 U	< 3.6 U	< 2.2 U
MWA-58d	9/11/2024	N	Deep	MWA-58d-091124	< 1.8 U	< 3.9 U	< 5.2 U	< 2.4 U	< 2.2 U	< 2.8 U	< 2.6 U	< 3.6 U	< 2.2 U
PA-18d	9/9/2024	N	Deep	PA-18d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.26 U	< 0.36 U	0.41 j
PA-19d	9/11/2024	N	Deep	PA-19d-091124	< 90 U	< 200 U	< 260 U	< 120 U	< 110 U	< 140 U	< 130 U	< 180 U	< 110 U
PA-20d	9/11/2024	N	Deep	PA-20d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.53 j	< 0.28 U	< 0.26 U	< 0.36 U	< 0.22 U
PA-22d	9/11/2024	N	Deep	PA-22d-091124	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.26 U	< 0.36 U	< 0.22 U
PA-23d	9/10/2024	N	Deep	PA-23d-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.26 U	< 0.36 U	< 0.22 U
PA-24d	9/10/2024	N	Deep	PA-24d-091024	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	< 0.22 U	< 0.28 U	< 0.26 U	< 0.36 U	< 0.22 U
PA-25d	9/9/2024	N	Deep	PA-25d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.066 U	< 0.12 U	< 0.040 U
PA-26d	9/9/2024	N	Deep	PA-26d-090924	< 0.11 U	< 0.025 U	< 0.056 U	< 0.070 U	< 0.064 U	< 0.035 U	< 0.066 U	< 0.12 U	< 0.040 U
PA-27d	9/9/2024	N	Deep	PA-27d-090924	< 0.18 U	< 0.39 U	< 0.52 U	< 0.24 U	0.28 j	< 0.28 U	< 0.26 U	< 0.36 U	< 0.22 U
PA-30d	9/11/2024	N	Deep	PA-30d-091124	< 180 U	< 390 U	< 520 U	< 240 U	< 220 U	< 280 U	< 260 U	< 360 U	< 220 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 3, 2024, 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	1800
Location ID	Sample Date	Sample Type	Aquifer Classification	Sample ID		
MWA-41	9/10/2024	N	Shallow	MWA-41-091024	18	< 0.91 U
MWA-63	9/10/2024	N	Shallow	MWA-63-091024	23	< 0.91 U
MWA-82	9/9/2024	N	Shallow	MWA-82-090924	11	220
PA-03	9/9/2024	N	Shallow	PA-03-090924	3.8	< 9.1 U
PA-04	9/10/2024	N	Shallow	PA-04-091024	4.9	< 4.5 U
PA-08	9/9/2024	N	Shallow	PA-08-090924	280	< 9.1 U
PA-09	9/9/2024	N	Shallow	PA-09-090924	15	84
PA-31	9/11/2024	N	Shallow	PA-31-091124	8.3	< 4.5 U
MWA-81i	9/10/2024	N	Intermediate	MWA-81i-091024	8.4	< 0.91 U
PA-10i	9/10/2024	N	Intermediate	PA-10i-091024	30	< 9.1 U
PA-10i	9/10/2024	FD	Intermediate	DUP-01-091024	31	< 9.1 U
PA-15i	9/9/2024	N	Intermediate	PA-15i-090924	59	< 9.1 U
PA-17iR	9/9/2024	N	Intermediate	PA-17iR-090924	43	< 9.1 U
PA-32i	9/11/2024	N	Intermediate	PA-32i-091124	88	< 18 U
PA-44i	9/10/2024	N	Intermediate	PA-44i-091024	220	< 4.5 U
MWA-11i(d)	9/11/2024	N	Deep	MWA-11i(d)-091124	530	< 0.91 U
MWA-31i(d)	9/10/2024	N	Deep	MWA-31i(d)-091024	16,000	87,000
MWA-56d	9/11/2024	N	Deep	MWA-56d-091124	10,000	14,000 J
MWA-56d	9/11/2024	FD	Deep	DUP-02-091124	11,000	19,000 J
MWA-58d	9/11/2024	N	Deep	MWA-58d-091124	17,000	54,000
PA-18d	9/9/2024	N	Deep	PA-18d-090924	67	< 9.1 U
PA-19d	9/11/2024	N	Deep	PA-19d-091124	270	< 4.5 U
PA-20d	9/11/2024	N	Deep	PA-20d-091124	620	74
PA-22d	9/11/2024	N	Deep	PA-22d-091124	4,300	15,000
PA-23d	9/10/2024	N	Deep	PA-23d-091024	33,000	< 18 U
PA-24d	9/10/2024	N	Deep	PA-24d-091024	30,000	< 18 U
PA-25d	9/9/2024	N	Deep	PA-25d-090924	21	< 0.91 U
PA-26d	9/9/2024	N	Deep	PA-26d-090924	60	< 0.91 U
PA-27d	9/9/2024	N	Deep	PA-27d-090924	720	< 9.1 U
PA-30d	9/11/2024	N	Deep	PA-30d-091124	270	< 18 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

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.

U = Analyte was analyzed for, but not detected above, the limit displayed.

J = The concentration of the sample is estimated.



FIGURES

M:\US\Projects\S-U\TotalArkema_Portland\Groundwater_Source_Control\Maps\PMP\GWET PMP 202406\Arkema GWET PMP June 2024.aprx REVISED: 09/06/2024 SCALE: 1:2,040 when printed at 11x17 DRAWN BY: GIS DATE: 9/6/2024



Legend

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

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

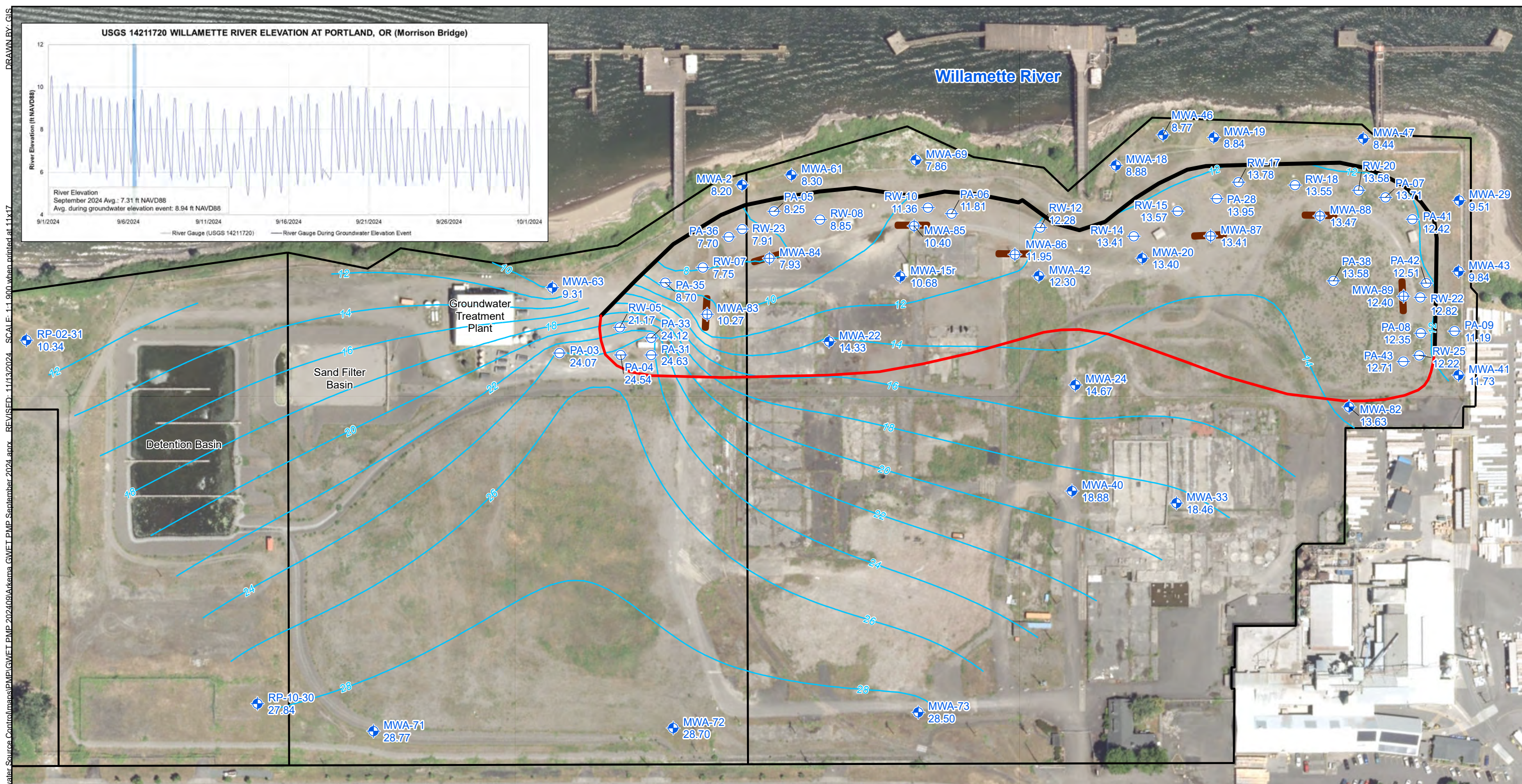
0 170 340
Feet

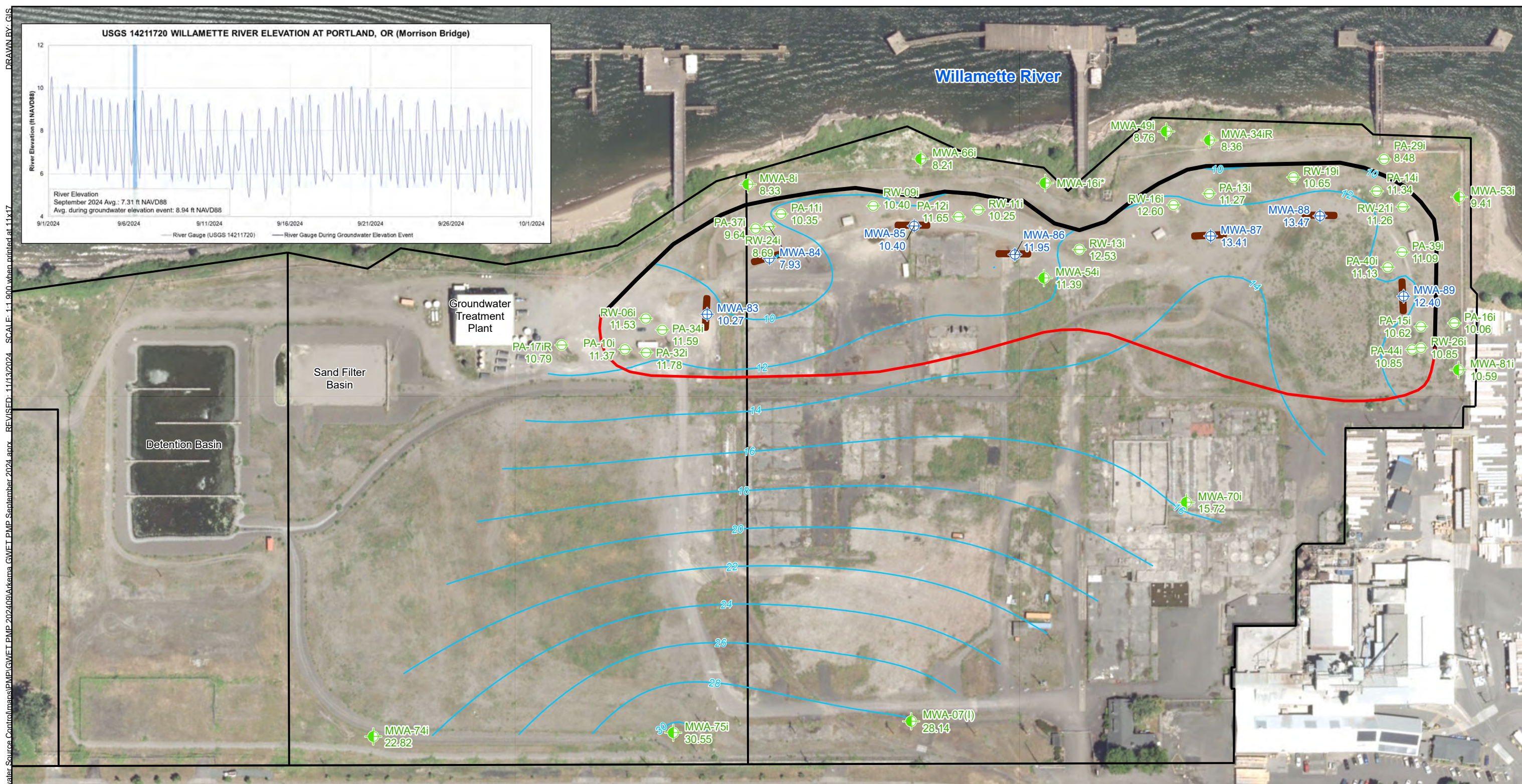
Figure 1

Site Layout

Quarter 3, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
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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 September 9–11, 2024.
- ft NAVD88: feet North American Vertical Datum of 1988.
- Aerial Photo: City of Portland, Summer 2017.

0 160 320
Feet

Figure 3

September 2024 Intermediate Zone Groundwater Contours

Quarter 3, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
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ERM

DRAWN BY: GIS
SCALE: 1:1,900 when printed at 11x17
REVISED: 11/13/2024
SOURCE: Control Maps PMP/GWET PMP 20240901Arkema GWET PMP September 2024.aprx
NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl

M:\US\Projects\S-U\Total\Arkema Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working Maps\2024 Q3\Figure 5 Chlorobenzene Shallow.mxd, REVISED: 12/03/2024, SCALE: 1:1,440 when printed at 11x DRAWN BY: Jake Sullivan DATE: 12/3/2024



Legend

- | | |
|-----------------------|--|
| ● > 6,400 µg/L | — Target Capture Zone |
| ● >= 640 - 6,400 µg/L | — Barrier Wall Alignment |
| ● >= 64 - < 640 µg/L | — Parcel and Property Boundaries |
| ● < 64 µg/L | — Shallow Zone Groundwater Contours (ft NAVD88) September 2024 |
| ○ Not Detected | |
| ⊗ Not Sampled | |

Notes:
Samples collected September 9–11, 2024.
All results in micrograms per liter (µg/L).
Results in **red** exceed screening criteria.
Screening criteria for Chlorobenzene = 64 µg/L
See Table 4 for definition of qualifiers.
ND: Non-Detect
NS: Not Sampled

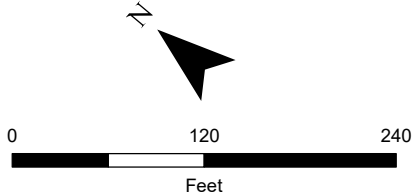


Figure 5
Chlorobenzene Groundwater Concentrations
Shallow Zone
Quarter 3, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

M:\US\Projects\S-U\Total\Arkema Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working Maps\2024 Q3\Figure 6 Chlorobenzene Intermediate.mxd, REVISED: 12/03/2024, SCALE: 1:1,440 when printed at 11" x 17", DATE: 12/3/2024



Legend

> 6,400 µg/L

>= 640 - 6,400 µg/L

>= 64 - < 640 µg/L

< 64 µg/L

Not Detected

Not Sampled

Target Capture Zone

Barrier Wall Alignment

Parcel and Property Boundaries

Intermediate Zone Groundwater

Contours (ft NAVD88) Intermediate 2024

Notes:
Samples collected September 9–11, 2024.
All results in micrograms per liter (µg/L).
Results in **red** exceed screening criteria.
Screening criteria for Chlorobenzene = 64 µg/L
See Table 4 for definition of qualifiers.
ND: Non-Detect
NS: Not Sampled

Figure 6
Chlorobenzene Groundwater Concentrations
Intermediate Zone
Quarter 3, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
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Source: ESRI World Imagery Webservice; 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\2024 Q3\Figure 7 Chlorobenzene Deep.mxd, REVISED: 12/03/2024, SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 12/3/2024



Legend

● > 6,400 µg/L	— Target Capture Zone
● ≥ 640 - 6,400 µg/L	— Barrier Wall Alignment
● ≥ 64 - < 640 µg/L	— Parcel and Property Boundaries
● < 64 µg/L	— Deep Zone Groundwater Contours (ft NAVD88) September 2024
○ Not Detected	
⊙ Not Sampled	

Notes:
Samples collected September 9–11, 2024.
All results in micrograms per liter (µg/L).
Results in **red** exceed screening criteria.
Screening criteria for Chlorobenzene = 64 µg/L
See Table 4 for definition of qualifiers.
ND: Non-Detect
NS: Not Sampled

Figure 7
Chlorobenzene Groundwater Concentrations
Deep Zone
Quarter 3, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
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ERM

0 120 240
Feet

M:\US\Projects\S-U\Total\Arkema Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working Maps\2024 Q3\Figure 8 1,2-Dichlorobenzene Shallow.mxd, REVISED: 12/03/2024, SCALE: 1:1,440 when printed at DRAWN BY: Jake Sullivan DATE: 12/3/2024



Legend

●

> 1,400 µg/L

●

>= 140 - 1,400 µg/L

●

>= 14 - < 140 µg/L

●

< 14 µg/L

○

Not Detected

⊗

Not Sampled

—

Target Capture Zone

—

Barrier Wall Alignment

—

Parcel and Property Boundaries

—

Shallow Zone Groundwater Contours (ft NAVD88) September 2024

Notes:

Samples collected September 9–11, 2024.

All results in micrograms per liter (µg/L).

Results in **red** exceed screening criteria.

Screening criteria for 1,2-Dichlorobenzene = 14 µg/L

See Table 4 for definition of qualifiers.

ND: Non-Detect

NS: Not Sampled

0

120

240

Feet

N

Figure 8

1,2-Dichlorobenzene Groundwater Concentrations

Shallow Zone

Quarter 3, 2024

Groundwater Monitoring Report

Arkema Inc.

Portland, Oregon

Environmental Resources Management

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ERM

Source: ESRI World Imagery Webservice; 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\2024 Q3\Figure 9 1,2-Dichlorobenzene Intermediate.mxd, REVISED: 12/03/2024, SCALE: 1:1,440 when printed, DATE: 12/3/2024



Legend

> 1,400 µg/L

>= 140 - 1,400 µg/L

>= 14 - < 140 µg/L

< 14 µg/L

Not Detected

Not Sampled

Target Capture Zone

Barrier Wall Alignment

Parcel and Property Boundaries

Intermediate Zone Groundwater Contours (ft NAVD88) September 2024

Notes:
Samples collected September 9–11, 2024.
All results in micrograms per liter (µg/L).
Results in **red** exceed screening criteria.
Screening criteria for 1,2-Dichlorobenzene = 14 µg/L
See Table 4 for definition of qualifiers.
ND: Non-Detect
NS: Not Sampled

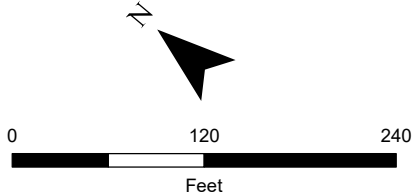


Figure 9
1,2-Dichlorobenzene Groundwater Concentrations
Intermediate Zone
Quarter 3, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

M:\US\Projects\S-U\Total\Arkema Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working Maps\2024 Q3\Figure 10 12-Dichlorobenzene Deep.mxd, REVISED: 12/03/2024, SCALE: 1:1,440 when printed at DRAWN BY: Jake Sullivan DATE: 12/3/2024



Legend

- | | |
|----------------------|---|
| ● > 1,400 µg/L | — Target Capture Zone |
| ● ≥ 140 - 1,400 µg/L | — Barrier Wall Alignment |
| ● ≥ 14 - < 140 µg/L | — Parcel and Property Boundaries |
| ● < 14 µg/L | — Deep Zone Groundwater Contours (ft NAVD88) September 2024 |
| ○ Not Detected | |
| ⊗ Not Sampled | |

Notes:
Samples collected September 9–11, 2024.
All results in micrograms per liter (µg/L).
Results in **red** exceed screening criteria.
Screening criteria for 1,2-Dichlorobenzene = 14 µg/L
See Table 4 for definition of qualifiers.
ND: Non-Detect
NS: Not Sampled

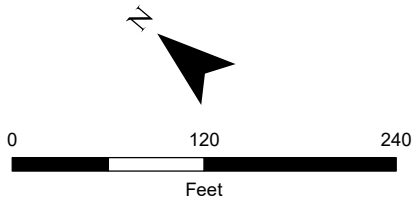


Figure 10
1,2-Dichlorobenzene Groundwater Concentrations
Deep Zone
Quarter 3, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

M:\US\Projects\IS-U\Total\Arkema Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working Maps\2024 Q3\Figure 11 VOCs PieChart Shallow.mxd, REVISED: 11/13/2024, SCALE: 1:1,440 when printed at 1188x1188 BY: Tyler Harris DATE: 11/13/2024



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) September 2024

Notes:
Samples collected September 9–11, 2024.
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

Figure 11
PCE, TCE, cis-1,2-DCE and
Vinyl Chloride Groundwater Concentrations
Shallow Zone
Quarter 3, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com

Source: ESRI World Imagery Webservice; NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

M:\US\Projects\IS-U\Total\Arkema Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q3\Figure 12 VOCs PieChart Intermediate.mxd, REVISED: 11/13/2024, SCALE: 1:1,440 when printed BY: Tyler Harris DATE: 11/13/2024



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) September 2024

Notes:
Samples collected September 9–11, 2024.
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

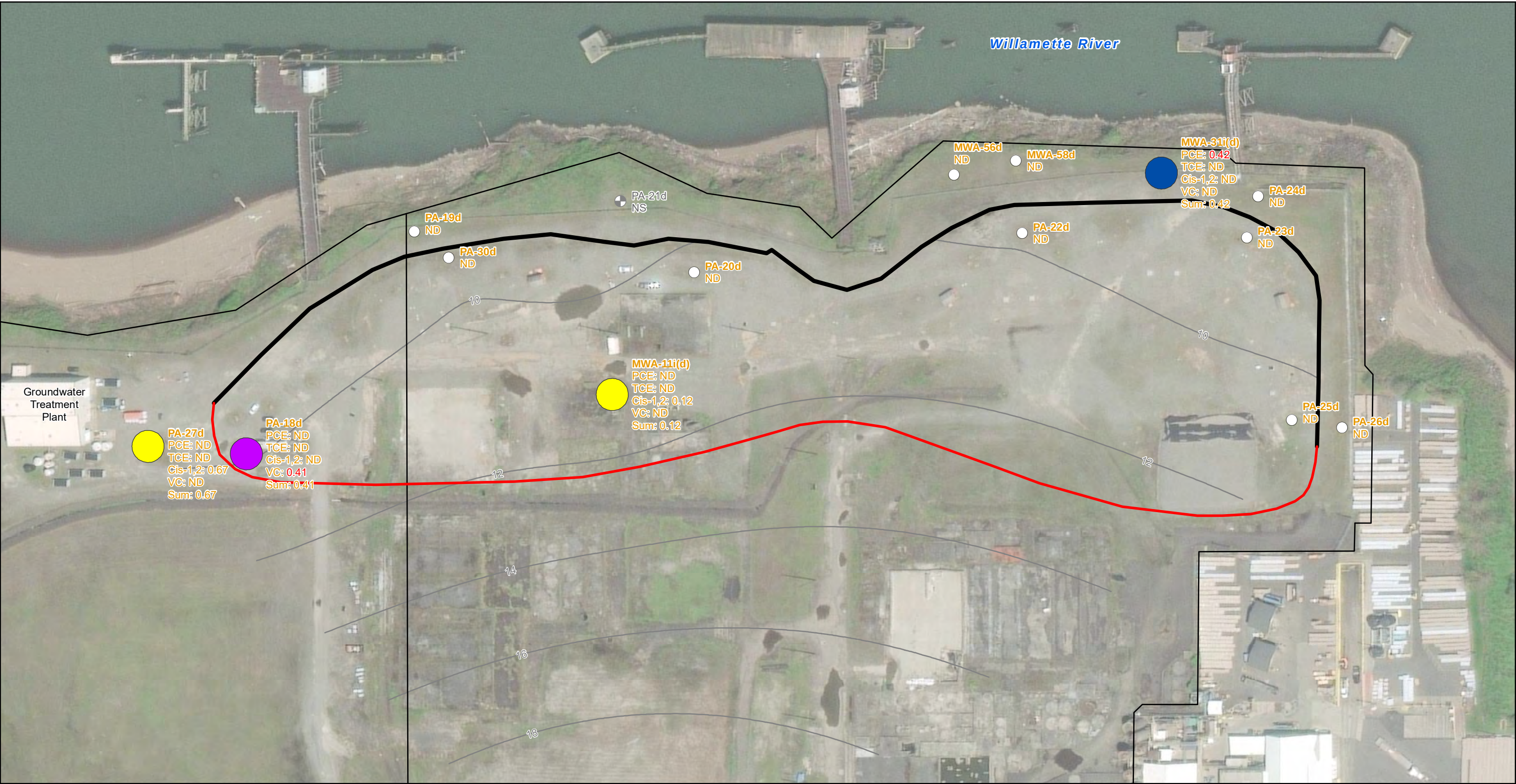
Figure 12
PCE, TCE, cis-1,2-DCE and
Vinyl Chloride Groundwater Concentrations
Intermediate Zone
Quarter 3, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

Environmental Resources Management
www.erm.com
ERM

0 120 240
Feet

N

M:\US\Projects\US-U\Total\Arkema Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q3\Figure 13 VOCs PieChart Deep.mxd, REVISED: 12/03/2024, SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Tyler Harris DATE: 12/3/2024



Legend

Molar Ratio



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

- Not Detected
- ⊕ Not Sampled
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Deep Zone Groundwater Contours (ft NAVD88) September 2024

Notes:
Samples collected September 9–11, 2024.
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
NS: Not Sampled

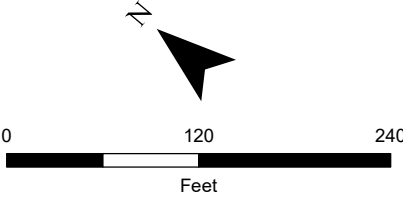


Figure 13
PCE, TCE, cis-1,2-DCE and
Vinyl Chloride Groundwater Concentrations
Deep Zone
Quarter 3, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

M:\US\Projects\S-U\Total\Arkema Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working Maps\2024 Q3\Figure 14 Perchlorate Shallow.mxd, REVISED: 12/03/2024, SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 12/3/2024



Legend

- | | |
|---------------------------|--|
| ● > 180,000 µg/L | — Target Capture Zone |
| ● ≥ 18,000 - 180,000 µg/L | — Barrier Wall Alignment |
| ● ≥ 1,800 - < 18,000 µg/L | — Parcel and Property Boundaries |
| ● < 1,800 µg/L | — Shallow Zone Groundwater Contours (ft NAVD88) September 2024 |
| ○ Not Detected | |
| ⊗ Not Sampled | |

Notes:
Samples collected September 9–11, 2024.
All results in micrograms per liter (µg/L).
Results in **red** exceed screening criteria.
Screening criteria for Perchlorate = 1,800 µg/L
See Table 5 for definition of qualifiers.
ND: Non-Detect
NS: Not Sampled

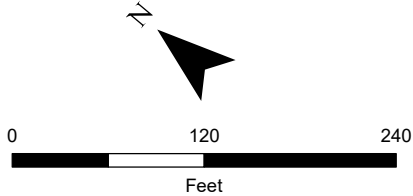


Figure 14
Perchlorate Groundwater Concentrations
Shallow Zone
Quarter 3, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

M:\US\Projects\S-U\Total\Arkema Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working Maps\2024 Q3\Figure 15 Perchlorate Intermediate.mxd, REVISED: 12/03/2024, SCALE: 1:1,440 when printed at 11" x 17", DRAWN BY: Jake Sullivan, DATE: 12/3/2024



Legend

- | | |
|---------------------------|---|
| ● > 180,000 µg/L | — Target Capture Zone |
| ● ≥ 18,000 - 180,000 µg/L | — Barrier Wall Alignment |
| ● ≥ 1,800 - < 18,000 µg/L | — Parcel and Property Boundaries |
| ● < 1,800 µg/L | — Intermediate Zone Groundwater Contours (ft NAVD88) September 2024 |
| ○ Not Detected | |
| ⊗ Not Sampled | |

Notes:
Samples collected September 9–11, 2024.
All results in micrograms per liter (µg/L).
Results in **red** exceed screening criteria.
Screening criteria for Perchlorate = 1,800 µg/L
See Table 5 for definition of qualifiers.
ND: Non-Detect
NS: Not Sampled

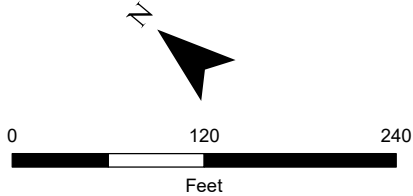
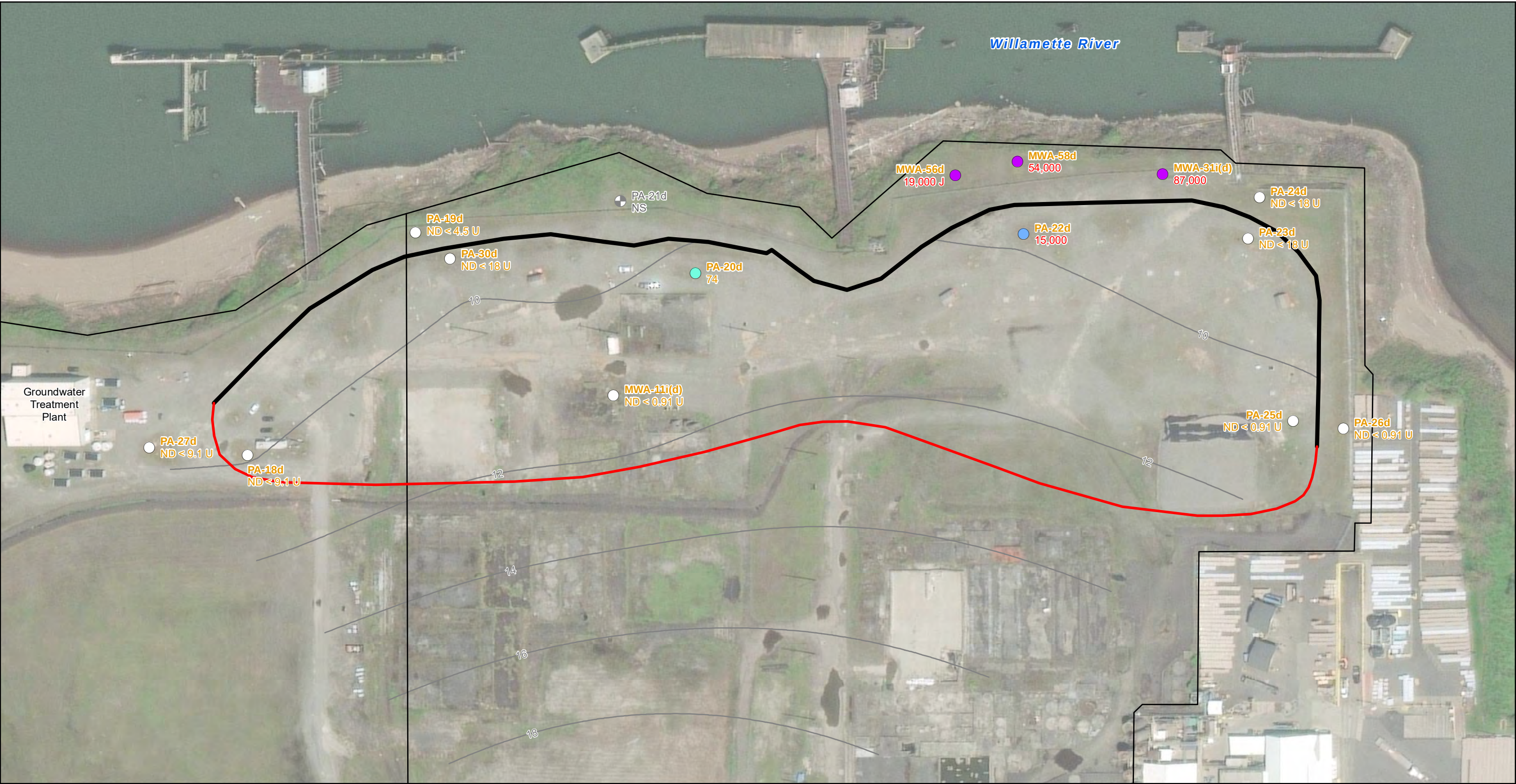


Figure 15
Perchlorate Groundwater Concentrations
Intermediate Zone
Quarter 3, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

M:\US\Projects\S-U\Total\Arkema Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working Maps\2024 Q3\Figure 16 Perchlorate Deep.mxd, REVISED: 12/03/2024, SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 12/3/2024



Legend

- > 180,000 µg/L
- ≥ 18,000 - 180,000 µg/L
- ≥ 1,800 - < 18,000 µg/L
- < 1,800 µg/L
- Not Detected
- ⊙ Not Sampled
- Target Capture Zone
- Barrier Wall Alignment
- Parcel and Property Boundaries
- Deep Zone Groundwater Contours (ft NAVD88) September 2024

Notes:
Samples collected September 9–11, 2024.
All results in micrograms per liter (µg/L).
Results in **red** exceed screening criteria.
Screening criteria for Perchlorate = 1,800 µg/L
See Table 5 for definition of qualifiers.
ND: Non-Detect
NS: Not Sampled

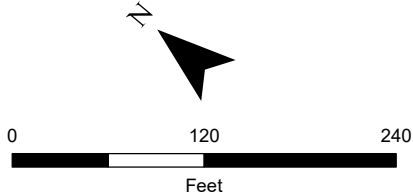


Figure 16
Perchlorate Groundwater Concentrations
Deep Zone
Quarter 3, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

M:\US\Projects\S-U\Total\Arkema Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working Maps\2024 Q3\Figure 17 Chloride Shallow.mxd REVISED: 12/03/2024 SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 12/3/2024



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) September 2024

Notes:
Samples collected September 9–11, 2024.
All results in milligrams per liter (mg/L).
Results in **red** exceed screening criteria.
Screening criteria for Chloride = 230 mg/L
See Table 5 for definition of qualifiers.
NS: Not Sampled

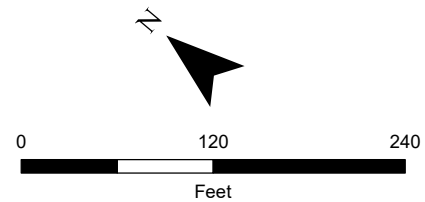


Figure 17
Chloride Groundwater Concentrations
Shallow Zone
Quarter 3, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

M:\US\Projects\S-U\Total\Arkema Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working Maps\2024 Q3\Figure 18 Chloride Intermediate Zone.mxd, REVISED: 12/03/2024, SCALE: 1:1,440 when printed at 11x17 DRAWN BY: Jake Sullivan DATE: 12/3/2024



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) August 2024

Notes:
Samples collected September 9–11, 2024.
All results in milligrams per liter (mg/L).
Results in **red** exceed screening criteria.
Screening criteria for Chloride = 230 mg/L
See Table 5 for definition of qualifiers.
NS: Not Sampled

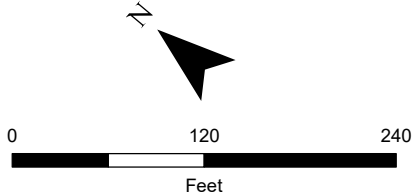
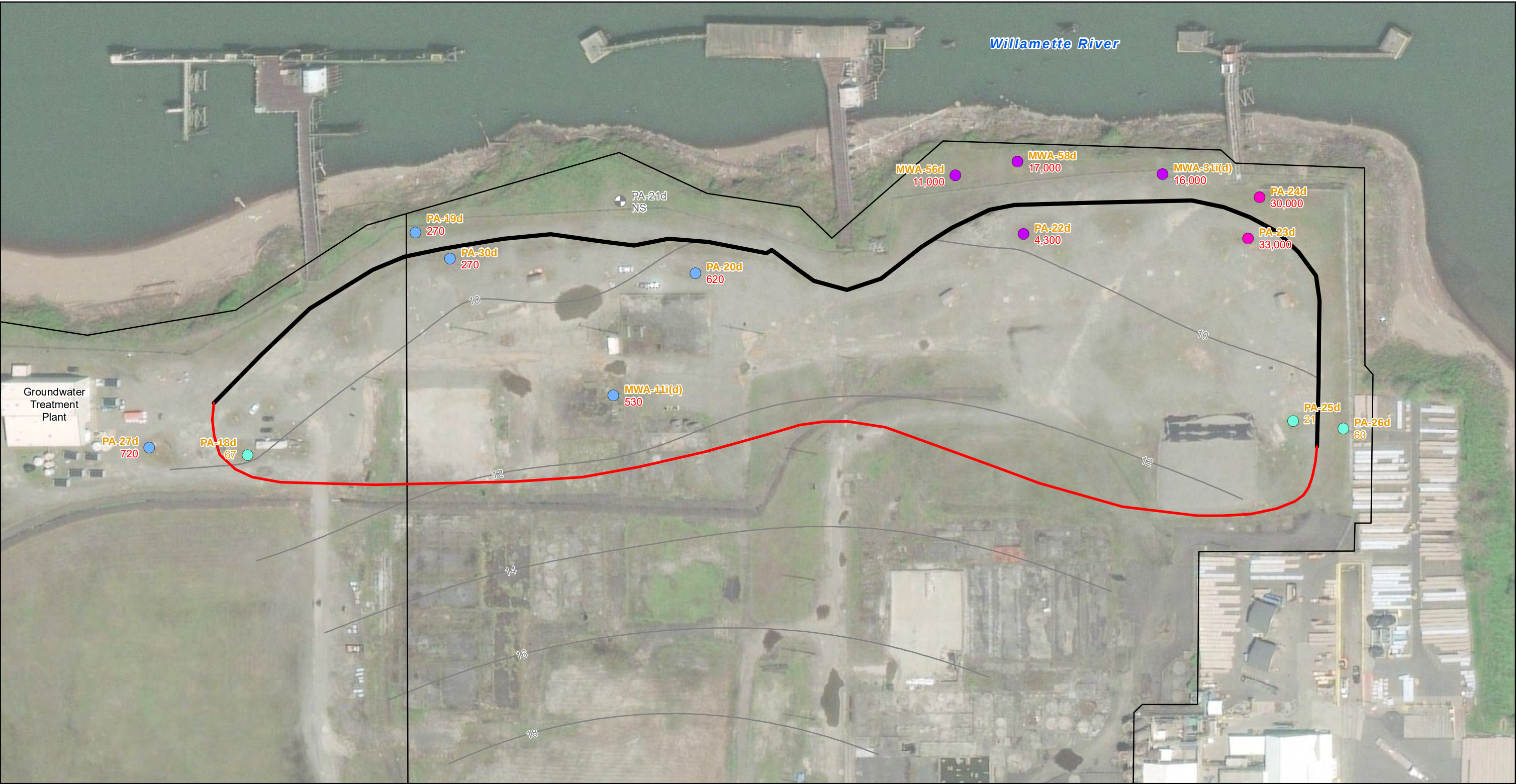


Figure 18
Chloride Groundwater Concentrations
Intermediate Zone
Quarter 3, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon

M:\US\Projects\S-U\Total\Arkema Portland\Groundwater Monitoring Report\Data\Scripts\Arkema Working\Maps\2024 Q3\Figure 19 Chloride Deep.mxd, REVISED: 12/03/2024, SCALE: 1:1,440 when printed at 11x17, DRAWN BY: Jake Sullivan, DATE: 12/3/2024



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
- Deep Zone Groundwater Contours (ft NAVD88) September 2024

Notes:
Samples collected September 9–11, 2024.
All results in milligrams per liter (mg/L).
Results in **red** exceed screening criteria.
Screening criteria for Chloride = 230 mg/L
See Table 5 for definition of qualifiers.
NS: Not Sampled

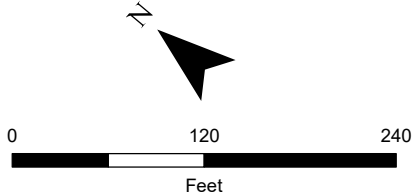


Figure 19
Chloride Groundwater Concentrations
Deep Zone
Quarter 3, 2024
Groundwater Monitoring Report
Arkema Inc.
Portland, Oregon



APPENDIX A FIELD FORMS



Low Flow Groundwater Sampling Field Data Form

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

Date: 2024/09/11
Cloudy 65

Site ID ARKEMA-PORTLAND	Purge Method / Pump Intake Depth Low Flow / 48.5 (ft)	Reference Elevation 36.49 (ft)
Site Address , Portland, US-OR	Purge Equipment NA	Depth to Water / Free Product 27.25 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 155.6 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / - ()
Sampler paul vannevel	Volume of Water in Well / Total Volume Purged () / 3.05 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
10:04	27.41	75	0	17.2	7.24	1746	NM	5.2	-65.6	11.63	NM	
10:07	27.41	175	0.35	17	7.03	1918	NM	2.53	-101.4	9.02	NM	
10:10	27.42	183.7	0.8	17	6.93	2126	NM	1.2	-122.9	5.46	NM	
10:13	27.42	183.7	1.25	17.4	6.9	2207	NM	0.83	-133.5	4.52	NM	
10:16	27.42	183.7	1.7	17.3	6.89	2258	NM	0.63	-138.7	4.11	NM	
10:19	27.42	159.1	2.15	17.1	6.89	2275	NM	0.51	-142.3	3.84	NM	
10:22	27.42	142.3	2.6	17.1	6.89	2287	NM	0.43	-145.1	3.92	NM	
10:25	27.42	142.3	3.05	17.1	6.89	2293	NM	0.39	-146.3	4.15	NM	

Sample ID(s): MWA-11i(d)-091124	Additional Comments 2in bladder pump used	SAMPLER NAME AND SIGNATURE PV	Date Time 09/11/2024 17:37
Analysis:			



Low Flow Groundwater Sampling Field Data Form

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

Date: 2024/09/10
Sunny 70

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 31.16 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 86.4 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / - ()
Sampler paul vannevel	Volume of Water in Well / Total Volume Purged () / 2.6 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
12:17	31.4		0	20.5	6.05	26675	NM	2.53	89.9	47.81	NM	
12:20	31.42	150	0.3	19	6.29	39454	NM	1.38	74.6	37.22	NM	
12:23	31.42	108.3	0.675	18.6	6.44	44644	NM	0.89	68.6	19.97	NM	
12:31	31.42	21.5	0.85	18.9	6.49	45924	NM	0.69	71.4	11.4	NM	Canister ran out of air while purging. Paused to switch to a new one.
12:34	31.44	88.4	1.1	20.5	6.5	45091	NM	0.89	78.9	10.88	NM	
12:37	31.43	79.1	1.35	19.6	6.51	46899	NM	0.92	78.4	11.06	NM	
12:40	31.5	88.4	1.6	18	6.5	48538	NM	0.59	76.4	14.87	NM	
12:43	31.5	79.1	1.85	18.1	6.5	49877	NM	0.48	79.3	10.08	NM	
12:46	31.51	72.2	2.1	18.3	6.5	50222	NM	0.45	80.6	7.67	NM	
12:49	31.51	88.4	2.35	18.8	6.51	49873	NM	0.48	80.5	7.67	NM	
12:52	31.51	88.4	2.6	19	6.52	49447	NM	0.47	79.8	7.22	NM	

Sample ID(s): MWA-31i(d)-091024	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
	2in bladder pump	PV 	09/10/2024 20:03
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-41
Well Permit No:

Date: 2024/09/10
Cool clear

Site ID ARKEMA-PORTLAND	Purge Method / Pump Intake Depth Low Flow / 38 (ft)	Reference Elevation 45.14 (ft)
Site Address , Portland, US-OR	Purge Equipment NA	Depth to Water / Free Product 34.74 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 160 (mL/min)	Well Diameter / Well Screen Interval (in) / - ()
Sampler scott terranova	Volume of Water in Well / Total Volume Purged () / 2.4 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
06:46	34.8	160		15.4	7.32	441.9	NM	5.78	151.9	24.74	NM	
06:49	34.8	160		14.5	7.05	396.1	NM	3.64	146.8	14.84	NM	
06:52	34.8	160		14.4	7	384.3	NM	3.51	142	12.99	NM	
06:55	34.8	160		14.4	6.97	377.2	NM	3.42	141.7	12.21	NM	
06:58	34.8	160	2.4	14.3	6.95	374.8	NM	3.34	141.8	12.03	NM	

Sample ID(s): MWA-41-091024	Additional Comments 2 pump, RB-01-091024 taken before purge	SAMPLER NAME AND SIGNATURE ST 	Date Time 09/10/2024 14:01
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-56D
Well Permit No:

Date: 2024/09/11
Cloudy 60

Site ID ARKEMA-PORTLAND	Purge Method / Pump Intake Depth Low Flow / 57.5 (ft)	Reference Elevation 36.68 (ft)
Site Address , Portland, US-OR	Purge Equipment NA	Depth to Water / Free Product 28.84 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 76.9 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / - ()
Sampler paul vannevel	Volume of Water in Well / Total Volume Purged () / 1.825 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
08:24	29.61	75	0	16.6	6.6	4512	NM	6.8	81.3	13.79	NM	
08:27	29.55	102.1	0.25	16.6	6.51	11792	NM	3.49	96.3	11.23	NM	
08:30	29.56	79.5	0.475	16.7	6.51	18800	NM	1.96	98.3	12	NM	
08:33	29.56	79.5	0.7	16.8	6.52	25312	NM	1.37	98.6	10.02	NM	
08:36	29.56	71.2	0.925	16.9	6.53	29720	NM	1.07	98.1	5.61	NM	
08:39	29.56	71.2	1.15	17	6.53	32049	NM	0.92	97.4	4.11	NM	
08:42	29.57	71.2	1.375	16.9	6.53	33244	NM	0.78	96.6	3.5	NM	
08:45	29.57	71.2	1.6	16.9	6.54	33849	NM	0.7	96.4	3.21	NM	
08:48	29.57	71.2	1.825	16.9	6.53	34217	NM	0.64	96.7	3.31	NM	

Sample ID(s): Dup-02-091124,MWA-56d-091124	Additional Comments 2in bladder pump used	SAMPLER NAME AND SIGNATURE PV 	Date Time 09/11/2024 16:14
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-58D
Well Permit No:

Date: 2024/09/11
Rain 55

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 30.98 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 85.9 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / - ()
Sampler paul vannevel	Volume of Water in Well / Total Volume Purged () / 1.4 (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) ±3%	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	31.11	75	0	16.4	6.41	35782	NM	3.11	116.5	8.72	NM	
06:58	31.13	102.1	0.25	16.2	6.54	44644	NM	1.62	87.7	6.18	NM	
07:01	31.15	132.7	0.575	16.2	6.56	47460	NM	0.92	63.7	5.94	NM	
07:04	31.15	79.5	0.8	16.1	6.57	48094	NM	0.72	55.1	5.27	NM	
07:07	31.16	70.7	1	16.2	6.57	48262	NM	0.68	50.9	4.99	NM	
07:10	31.16	70.7	1.2	16.2	6.57	48452	NM	0.65	50.8	4.79	NM	
07:13	31.15	70.7	1.4	16.2	6.57	48566	NM	0.61	52.1	4.37	NM	

Sample ID(s): MWA-58d-091124	Additional Comments 2in bladder pump used	SAMPLER NAME AND SIGNATURE PV	Date Time 09/11/2024 14:43
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-63
Well Permit No:

Date: 2024/09/10
Sunny 65

Site ID ARKEMA-PORTLAND	Purge Method / Pump Intake Depth Low Flow / 28.25 (ft)	Reference Elevation 36.29 (ft)
Site Address , Portland, US-OR	Purge Equipment NA	Depth to Water / Free Product 27.06 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 59.7 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / - ()
Sampler paul vannevel	Volume of Water in Well / Total Volume Purged () / 0.95 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
08:57	27.2	100	0	17	6.74	613	NM	6.73	63.9	10.71	NM	
09:00	27.23	70.7	0.2	16.8	6.71	608	NM	6.03	74.7	10.42	NM	
09:03	27.26	63.2	0.4	16.8	6.71	608	NM	5.81	79.6	8.71	NM	
09:06	27.3	39.5	0.525	16.9	6.71	608	NM	5.65	83	7.83	NM	
09:09	27.31	44.2	0.65	17	6.71	610	NM	5.58	86.1	6.95	NM	
09:12	27.34	53	0.8	17.1	6.71	610	NM	5.44	87.9	6.71	NM	
09:15	27.38	47.4	0.95	17.2	6.71	612	NM	5.47	89.7	6.6	NM	

Sample ID(s): MWA-63-091024	Additional Comments Peri pump used	SAMPLER NAME AND SIGNATURE PV 	Date Time 09/10/2024 16:44
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-81I
Well Permit No:

Date: 2024/09/10
Clear cool

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 33.63 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
07:24	33.65	160		15.2	6.72	422.3	NM	2.49	46.1	42.84	NM	
07:27	33.65	160		14.8	6.65	407.6	NM	1.42	40.7	50.49	NM	
07:30	33.65	160		14.6	6.64	399.8	NM	1.02	60.7	48.24	NM	
07:33	33.65	160		14.5	6.63	395.8	NM	0.92	68.6	47.95	NM	
07:36	33.65	160		14.5	6.62	392.3	NM	0.88	74.2	47.46	NM	
07:38	33.65	160	2.88	14.5	6.62	391.1	NM	0.84	74.3	47.33	NM	

Sample ID(s): MWA-81i-091024	Additional Comments 2 pump	SAMPLER NAME AND SIGNATURE ST 	Date Time 09/10/2024 14:43
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: MWA-82
Well Permit No:

Date: 2024/09/09
Cool cloudy

Site ID ARKEMA-PORTLAND	Purge Method / Pump Intake Depth Low Flow / 28 (ft)	Reference Elevation 37.74 (ft)
Site Address , Portland, US-OR	Purge Equipment NA	Depth to Water / Free Product 24.15 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 160 (mL/min)	Well Diameter / Well Screen Interval (in) / - ()
Sampler scott terranova	Volume of Water in Well / Total Volume Purged () / 3.84 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
07:07	24.15	160		14.8	9.68	478.9	NM	2.02	84.4	38.55	NM	
07:10	24.15	160		14.8	9.69	470.8	NM	1.23	80.5	35.25	NM	
07:13	24.15	160		14.8	9.69	474.3	NM	0.95	78.7	35.25	NM	
07:16	24.15	160		14.8	9.67	480.5	NM	0.82	78	34.6	NM	
07:19	24.15	160		14.8	9.65	483.6	NM	0.74	77.3	34.95	NM	
07:22	24.15	160		14.9	9.65	481.9	NM	0.77	76.7	34.25	NM	
07:25	24.15	160		15	9.64	481	NM	0.8	75.3	34.61	NM	
07:28	24.15	100	3.84	15	9.63	482.3	NM	0.84	75.5	34.35	NM	

Sample ID(s): MWA-82-090924	Additional Comments 2 pump	SAMPLER NAME AND SIGNATURE ST 	Date Time 09/09/2024 19:47
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: PA-03
Well Permit No:

Date: 2024/09/09
Cloudy 65

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 13.29 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 90.3 (mL/min)	Well Diameter / Well Screen Interval 1 (in) / - ()
Sampler paul vannevel	Volume of Water in Well / Total Volume Purged () / 2.05 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
08:33	13.61	75	0	17.2	10.34	703	NM	3.37	-192.9	43.6	NM	
08:36	13.62	102.1	0.25	17.1	10.35	696	NM	1.4	-220.6	67.78	NM	
08:39	13.6	102.1	0.5	17.1	10.35	701	NM	0.7	-245.4	96.2	NM	
08:42	13.69	106.1	0.8	17.1	10.34	704	NM	0.41	-258.1	123.36	NM	
08:45	13.67	102.1	1.05	17	10.33	711	NM	0.27	-268.3	159.81	NM	
08:48	13.68	88.4	1.3	17.1	10.3	722	NM	0.18	-281.4	197.8	NM	
08:51	13.67	94.9	1.6	17.2	10.28	738	NM	0.11	-291.4	213.8	NM	
08:54	13.67	63.2	1.8	17.3	10.27	745	NM	0.07	-299.5	228.46	NM	
08:57	13.68	79.1	2.05	17.3	10.26	755	NM	0.04	-305.7	235.3	NM	

Sample ID(s): PA-03-09092024	Additional Comments Peri pump used.	SAMPLER NAME AND SIGNATURE PV 	Date Time 09/09/2024 16:25
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: PA-04
Well Permit No:

Date: 2024/09/10
Partly cloudy 60

Site ID ARKEMA-PORTLAND	Purge Method / Pump Intake Depth Low Flow / 25 (ft)	Reference Elevation 36.67 (ft)
Site Address , Portland, US-OR	Purge Equipment NA	Depth to Water / Free Product 12.05 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 104.3 (mL/min)	Well Diameter / Well Screen Interval 1 (in) / - ()
Sampler paul vannevel	Volume of Water in Well / Total Volume Purged () / 1.55 (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) ±3%	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	12.13	100	0	16.5	9.88	661	NM	4.09	-59.2	114.58	NM	
06:38	12.13	123.7	0.35	16.2	9.9	668	NM	1.2	-63	176.43	NM	
06:41	12.13	94.9	0.65	16.2	9.89	676	NM	0.67	-63.2	306.8	NM	
06:44	12.13	106.1	0.95	16.1	9.88	685	NM	0.49	-63.8	305.7	NM	
06:47	12.13	106.1	1.25	16.1	9.88	688	NM	0.38	-64.7	283.21	NM	
06:50	12.13	94.9	1.55	16.1	9.88	689	NM	0.31	-65.8	262.1	NM	

Sample ID(s): PA-04-091024	Additional Comments Peri pump used	SAMPLER NAME AND SIGNATURE PV 	Date Time 09/10/2024 14:08
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: PA-08
Well Permit No:

Date: 2024/09/09
Warm clear

Site ID ARKEMA-PORTLAND	Purge Method / Pump Intake Depth Low Flow / 31 (ft)	Reference Elevation 40.47 (ft)
Site Address , Portland, US-OR	Purge Equipment NA	Depth to Water / Free Product 28.35 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 100 (mL/min)	Well Diameter / Well Screen Interval (in) / - ()
Sampler scott terranova	Volume of Water in Well / Total Volume Purged () / 1.8 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
12:07	28.37	100		18.8	7.17	2274	NM	2.04	62.6	31.02	NM	
12:10	28.39	100		18.7	7.12	2314	NM	1.39	55.8	28.97	NM	
12:13	28.4	100		18.3	7.11	2325	NM	0.76	39.7	30.25	NM	
12:16	28.4	100		17.9	7.12	2268	NM	0.6	33.1	30.65	NM	
12:19	28.4	100		17.9	7.12	2253	NM	0.6	29.4	31.16	NM	
12:22	28.4	100	1.8	18.1	7.14	2173	NM	0.57	28.3	30.42	NM	

Sample ID(s): PA-08-090924	Additional Comments Peri pump. 1 pump will not go down well is bent	SAMPLER NAME AND SIGNATURE ST 	Date Time 09/09/2024 19:24
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: PA-09
Well Permit No:

Date: 2024/09/09
Cool cloudy

Site ID ARKEMA-PORTLAND	Purge Method / Pump Intake Depth Low Flow / 31 (ft)	Reference Elevation 40.24 (ft)
Site Address , Portland, US-OR	Purge Equipment NA	Depth to Water / Free Product 29.3 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 100 (mL/min)	Well Diameter / Well Screen Interval (in) / - ()
Sampler scott terranova	Volume of Water in Well / Total Volume Purged () / 1.8 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
08:16	29.38	100		16.7	7.51	452.4	NM	1.61	-46.9	307.9	NM	
08:19	29.39	100		16.4	7.33	443.7	NM	1.5	-33.6	120.93	NM	
08:22	29.38	100		16.2	7.3	439.1	NM	1.7	-22.1	106.8	NM	
08:25	29.38	100		16	7.28	436.9	NM	2.13	-12.8	120.8	NM	
08:28	29.38	100		16	7.27	437.5	NM	2.32	-6.4	109.7	NM	
08:31	29.38	100	1.8	16	7.26	439.9	NM	2.52	-1.8	115.8	NM	

Sample ID(s): PA-09-090924	Additional Comments 1 pump	SAMPLER NAME AND SIGNATURE ST 	Date Time 09/09/2024 15:37
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: PA-10I
Well Permit No:

Date: 2024/09/10
Partly cloudy 60

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 25.01 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 83 (mL/min)	Well Diameter / Well Screen Interval 1 (in) / - ()
Sampler paul vannevel	Volume of Water in Well / Total Volume Purged () / 1.2 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
07:36	25.09	100	0	16.1	7.48	738	NM	2.28	-92.4	12.5	NM	
07:39	25.09	106.1	0.15	16.1	7.48	750	NM	1.18	-118	12.58	NM	
07:42	25.1	70.7	0.35	16	7.5	766	NM	0.63	-143.2	10.73	NM	
07:45	25.09	70.7	0.55	16	7.5	771	NM	0.34	-157.9	8.77	NM	
07:48	25.1	88.4	0.8	15.9	7.5	773	NM	0.21	-171.4	8.02	NM	
07:51	25.1	63.2	1	16	7.51	774	NM	0.15	-178.8	8.11	NM	
07:54	25.1	81.6	1.2	16	7.51	774	NM	0.11	-183.5	8.37	NM	

Sample ID(s): Dup-01-091024,PA-10i-091024	Additional Comments Peri pump used	SAMPLER NAME AND SIGNATURE PV 	Date Time 09/10/2024 15:29
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: PA-15I
Well Permit No:

Date: 2024/09/09
Cool clear

Site ID ARKEMA-PORTLAND	Purge Method / Pump Intake Depth Low Flow / 42.5 (ft)	Reference Elevation 40.62 (ft)
Site Address , Portland, US-OR	Purge Equipment NA	Depth to Water / Free Product 30.5 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
11:20	30.6	100		17.8	7.41	779	NM	1.65	-17.5	60.73	NM	
11:23	30.64	100		17.2	7.43	788	NM	0.97	-36.3	52.37	NM	
11:26	30.65	100		16.8	7.45	843	NM	0.69	-45.7	58.61	NM	
11:29	30.67	100		16.7	7.45	880	NM	0.64	-53.2	53.91	NM	
11:32	30.65	100		16.6	7.43	905	NM	0.56	-59.1	57.64	NM	
11:35	30.67	100	1.95	16.6	7.42	925	NM	0.51	-62.1	55.28	NM	

Sample ID(s): PA-15i-090924	Additional Comments 1 pump	SAMPLER NAME AND SIGNATURE ST	Date Time 09/09/2024 18:38
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: PA-16I
Well Permit No:

Date: 2024/09/11

Site ID ARKEMA-PORTLAND		Purge Method / Pump Intake Depth Low Flow / 0 (ft)				Reference Elevation 40.3 (ft)						
Site Address , Portland, US-OR		Purge Equipment NA				Depth to Water / Free Product 0 (ft) / None						
Project Number 0732436		Sample Equipment NA				Total Well Depth 29.01 (ft)						
Project Name 20240909-GWMonitor		Average Purge Rate 0 (mL/min)				Well Diameter / Well Screen Interval 1 (in) / - ()						
Sampler paul vannevel		Volume of Water in Well / Total Volume Purged 0 (l) / 0 (l)				Well Construction PVC						
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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments

Sample ID(s):	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis:			
		PV 	09/11/2024 20:40



Low Flow Groundwater Sampling Field Data Form

Well ID: PA-17IR
Well Permit No:

Date: 2024/09/09
Partly cloudy 75

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 27.45 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 43.3 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / - (ft)
Sampler paul vannevel	Volume of Water in Well / Total Volume Purged () / 0.475 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
11:17	27.99	50	0	21.7	9.22	1196	NM	1.23	-213.8	7.97	NM	
11:20	28.05	44.2	0.125	21.5	9.23	1216	NM	0.61	-225.3	7.58	NM	
11:23	28.1	51	0.25	21.5	9.23	1218	NM	0.29	-236.4	6.94	NM	
11:26	28.14	35.4	0.35	21.6	9.22	1213	NM	0.18	-245.5	7.01	NM	
11:29	28.15	36.1	0.475	21.7	9.2	1204	NM	0.1	-252.4	6.61	NM	

Sample ID(s): PA-17iR-09092024	Additional Comments Peri pump used	SAMPLER NAME AND SIGNATURE PV 	Date Time 09/09/2024 18:49
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: PA-18D
Well Permit No:

Date: 2024/09/09
Partly cloudy 75

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 26.98 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 43.4 (mL/min)	Well Diameter / Well Screen Interval 1 (in) / - ()
Sampler paul vannevel	Volume of Water in Well / Total Volume Purged () / 0.75 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
12:30	27.49	50	0	22.2	8.28	1090	NM	1.6	-110.7	7.38	NM	
12:33	27.52	61.2	0.15	22	8.31	1122	NM	1.03	-122.8	7.23	NM	
12:36	27.55	31.6	0.25	21.8	8.35	1152	NM	0.75	-133.9	9.05	NM	
12:39	27.57	28.9	0.35	21.6	8.38	1167	NM	0.57	-140.8	11.47	NM	
12:42	27.61	53	0.5	21.6	8.39	1172	NM	0.32	-146.7	16.32	NM	
12:45	27.61	31.6	0.6	21.7	8.4	1173	NM	0.25	-152.5	13.35	NM	
12:48	27.63	47.4	0.75	21.7	8.4	1176	NM	0.22	-155.8	11.37	NM	
12:51	27.67	40.8	0.85	21.5	8.4	1176	NM	0.17	-159	10.22	NM	
12:54	27.67	35.4	0.95	21.4	8.4	1177	NM	0.13	-161.5	9.9	NM	
12:57	27.68	53	1.1	21.4	8.4	1175	NM	0.08	-168.4	10.31	NM	

Sample ID(s): PA-18d-090924	Additional Comments Peri pump used	SAMPLER NAME AND SIGNATURE PV 	Date Time 09/09/2024 20:28
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: PA-19D
Well Permit No:

Date: 2024/09/11
Cool cloudy

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 30.2 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 150 (mL/min)	Well Diameter / Well Screen Interval (in) / - ()
Sampler scott terranova	Volume of Water in Well / Total Volume Purged () / 8.35 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
10:39	33.2	100		16.9	7.25	3850	NM	3.55	-9.4	32.08	NM	
10:47	37.9	150		16.1	7.2	3847	NM	7.16	4.7	27.83	NM	
10:55	39.85	150		15.9	7.3	3836	NM	5.35	-2.6	22.74	NM	
11:03	40.6	150		15.8	7.3	3835	NM	4.73	-17.8	18.21	NM	
11:11	41	150		15.8	7.33	3862	NM	4.57	-17.2	11.58	NM	
11:19	41.28	150		16	7.3	3880	NM	4.21	-21	7.21	NM	
11:28	41.95	150		16.1	7.25	3905	NM	4.01	-23.9	5.76	NM	
11:33	42.29	150	8.35	16.3	7.23	3938	NM	3.92	-25.8	4.74	NM	

Sample ID(s): PA-19d-091124	Additional Comments 1 pump	SAMPLER NAME AND SIGNATURE ST 	Date Time 09/11/2024 18:35
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: PA-20D
Well Permit No:

Date: 2024/09/11
Cool cloudy

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 29.3 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 150 (mL/min)	Well Diameter / Well Screen Interval (in) / - ()
Sampler scott terranova	Volume of Water in Well / Total Volume Purged () / 15.5 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
07:48	31.65	100		16	6.77	4792	NM	2.57	-34.2	8.88	NM	
07:51	33.2	100		16	6.74	4539	NM	2.48	-29.7	6.85	NM	
08:11	41.8	150		15.5	6.78	3813	NM	5.56	-33.1	14.6	NM	
08:31	46.4	150		15.4	6.78	3771	NM	3.86	-31.4	11.5	NM	
08:51	48.1	150		15.5	6.76	3720	NM	2.97	-29.6	9.43	NM	
09:11	48.6	150		15.6	6.76	3593	NM	2.54	-27.2	6.47	NM	
09:29	49.1	150	15.5	15.8	6.75	3524	NM	2.42	-24.3	5.52	NM	

Sample ID(s): PA-20d-091124	Additional Comments 1 pump	SAMPLER NAME AND SIGNATURE ST 	Date Time 09/11/2024 16:31
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: PA-21D
Well Permit No:

Date: 2024/09/11
Cool cloudy

Site ID ARKEMA-PORTLAND	Purge Method / Pump Intake Depth Low Flow / 0 (ft)	Reference Elevation 34.36 (ft)
Site Address , Portland, US-OR	Purge Equipment NA	Depth to Water / Free Product 25.75 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth 34.04 (ft)
Project Name 20240909-GWMonitor	Average Purge Rate ()	Well Diameter / Well Screen Interval (in) / - ()
Sampler scott terranova	Volume of Water in Well / Total Volume Purged (l) / 0 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments

Sample ID(s):	Additional Comments	SAMPLER NAME AND SIGNATURE	Date Time
Analysis:			
		ST 	09/11/2024 20:14



Low Flow Groundwater Sampling Field Data Form

Well ID: PA-22D
Well Permit No:

Date: 2024/09/11
Cool raining

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 29.8 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 100 (mL/min)	Well Diameter / Well Screen Interval (in) / - ()
Sampler scott terranova	Volume of Water in Well / Total Volume Purged () / 1.8 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
07:00	30.05	100		15.9	7.05	17351	NM	2.24	162.3	16.83	NM	
07:03	30.05	100		15.7	7.05	17493	NM	1.05	159.7	8.42	NM	
07:06	30.05	100		15.6	7.05	18513	NM	0.79	158.2	8.58	NM	
07:09	30.05	100		15.6	7.06	19371	NM	0.73	156.5	9.21	NM	
07:12	30.05	100	1.8	15.7	7.06	19689	NM	0.69	155.3	8.86	NM	

Sample ID(s): PA-22d-091124	Additional Comments 1 pump, took RB-01-091124 before purging	SAMPLER NAME AND SIGNATURE ST 	Date Time 09/11/2024 14:14
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: PA-23D
Well Permit No:

Date: 2024/09/10
Clear cool

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 32.1 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 150 (mL/min)	Well Diameter / Well Screen Interval (in) / - ()
Sampler scott terranova	Volume of Water in Well / Total Volume Purged () / 23.85 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
08:46	34.3	100		16.2	6.67	89841	NM	4.08	-8.8	21.24	NM	
08:51	36.15	150		15.7	6.86	90397	NM	6.71	-2.2	24.88	NM	
09:21	43.5	150		15.8	6.91	90678	NM	5.76	-7.1	40.77	NM	
09:51	46	150		15.9	6.97	91623	NM	2.43	-44.5	40.37	NM	
10:21	47.2	150		16.2	6.98	91590	NM	1.49	-51.5	44.76	NM	
10:51	47.95	150		16.6	6.99	91771	NM	0.93	-58.8	42.53	NM	
11:21	48.15	150	23.85	16.9	7	92119	NM	0.73	-64.5	43.93	NM	

Sample ID(s): PA-23d-091024	Additional Comments 1 pump	SAMPLER NAME AND SIGNATURE ST	Date Time 09/10/2024 18:24
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: PA-24D
Well Permit No:

Date: 2024/09/10
Clear cool

Site ID ARKEMA-PORTLAND	Purge Method / Pump Intake Depth Low Flow / 81 (ft)	Reference Elevation 39.06 (ft)
Site Address , Portland, US-OR	Purge Equipment NA	Depth to Water / Free Product 32.2 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 100 (mL/min)	Well Diameter / Well Screen Interval (in) / - ()
Sampler scott terranova	Volume of Water in Well / Total Volume Purged () / 2.9 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
11:50	33.45	100		17.2	6.62	88546	NM	2.94	-27.9	26	NM	
11:55	33.5	100		16.9	6.65	89386	NM	1.68	-33.9	39.74	NM	
11:58	33.48	100		16.9	6.65	89554	NM	1.44	-35.9	34.58	NM	
12:01	33.5	100		17.1	6.67	89452	NM	1.38	-36.9	33.28	NM	
12:04	33.52	100		17.3	6.67	89636	NM	1.21	-39.2	34.72	NM	
12:07	33.52	100		17.3	6.67	89869	NM	1.07	-37.7	33.17	NM	
12:10	33.54	100		17.4	6.68	89884	NM	1.01	-40.2	33.95	NM	
12:13	33.54	100	2.9	17.4	6.68	89928	NM	0.95	-42.9	34.44	NM	

Sample ID(s): PA-24d-091024	Additional Comments 1 pump	SAMPLER NAME AND SIGNATURE ST 	Date Time 09/10/2024 19:16
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: PA-25D
Well Permit No:

Date: 2024/09/09
Cool cloudy

Site ID ARKEMA-PORTLAND	Purge Method / Pump Intake Depth Low Flow / 80 (ft)	Reference Elevation 40.44 (ft)
Site Address , Portland, US-OR	Purge Equipment NA	Depth to Water / Free Product 30.95 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 100 (mL/min)	Well Diameter / Well Screen Interval (in) / - ()
Sampler scott terranova	Volume of Water in Well / Total Volume Purged () / 1.8 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
10:08	26.95	100		17.7	7.12	804	NM	2.02	-57.9	97.9	NM	
10:11	27.02	100		17.5	7.12	806	NM	1.21	-59.5	75.32	NM	
10:14	27.05	100		17.5	7.12	809	NM	0.95	-55.6	89.47	NM	
10:17	27.08	100		17.7	7.12	813	NM	0.91	-51.1	91.61	NM	
10:20	27.1	160	1.8	17.8	7.11	815	NM	0.91	-47.8	89.61	NM	

Sample ID(s): PA-25d-090924	Additional Comments 1 pump	SAMPLER NAME AND SIGNATURE ST 	Date Time 09/09/2024 17:23
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: PA-26D
Well Permit No:

Date: 2024/09/09
Cool cloudy

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 30.45 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 100 (mL/min)	Well Diameter / Well Screen Interval (in) / - ()
Sampler scott terranova	Volume of Water in Well / Total Volume Purged () / 2.7 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
09:05	27	100		17.2	6.68	244.4	NM	6.42	22.3	17.67	NM	
09:08	27.05	100		17	6.65	246.9	NM	5.87	16.2	14.21	NM	
09:11	27.05	100		17	6.68	315.8	NM	4.09	329.8	12.53	NM	
09:14	27.05	100		16.9	6.74	474.9	NM	2.2	-22.7	8.95	NM	
09:17	27.07	100		17	6.83	616	NM	1.34	-49.1	9.42	NM	
09:20	27	100		17	6.9	695	NM	1.1	-65.9	8.53	NM	
09:23	26.98	100		17	6.93	713	NM	1.02	-67.1	8.71	NM	
09:26	26.96	100	2.7	17	6.95	721	NM	0.98	-69.1	9.24	NM	

Sample ID(s): PA-26d-090924	Additional Comments 1 pump	SAMPLER NAME AND SIGNATURE ST 	Date Time 09/09/2024 16:35
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: PA-27D
Well Permit No:

Date: 2024/09/09
Cloudy 65

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 27.6 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 47.6 (mL/min)	Well Diameter / Well Screen Interval 1 (in) / - ()
Sampler paul vannevel	Volume of Water in Well / Total Volume Purged () / 1.1 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
09:55	28.35	50	0	20.3	7.13	2618	NM	1.58	-212.4	20.11	NM	
09:58	28.39	47.4	0.15	20.3	7.13	2655	NM	1.16	-212.1	21.1	NM	
10:01	28.39	47.4	0.3	19.8	7.01	3058	NM	0.74	-198.5	8.53	NM	
10:04	28.36	31.6	0.4	19.5	6.94	3428	NM	0.6	-178.2	5.09	NM	
10:07	28.44	53	0.55	19.4	6.89	3620	NM	0.52	-154.2	4.32	NM	
10:10	28.45	31.6	0.65	19.2	6.88	3741	NM	0.45	-134.2	4.07	NM	
10:13	28.49	61.2	0.8	19.4	6.87	3743	NM	0.34	-119.4	4.69	NM	
10:16	28.47	53	0.95	19.4	6.87	3749	NM	0.32	-114.1	4.98	NM	
10:19	28.45	53	1.1	19.3	6.87	3733	NM	0.26	-112.2	5.67	NM	

Sample ID(s): PA-27d-09092024	Additional Comments Peri pump used	SAMPLER NAME AND SIGNATURE PV 	Date Time 09/09/2024 17:48
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: PA-30D
Well Permit No:

Date: 2024/09/11
Cool cloudy

Site ID ARKEMA-PORTLAND	Purge Method / Pump Intake Depth Low Flow / 50 (ft)	Reference Elevation 37.34 (ft)
Site Address , Portland, US-OR	Purge Equipment NA	Depth to Water / Free Product 29 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 100 (mL/min)	Well Diameter / Well Screen Interval (in) / - ()
Sampler scott terranova	Volume of Water in Well / Total Volume Purged () / 2.4 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
12:13	28.85	100		18.1	7.7	2988	NM	1.18	21.8	17.84	NM	
12:16	28.9	100		18.2	7.73	2926	NM	0.56	-45.5	95.64	NM	
12:19	28.95	100		18.4	7.86	2971	NM	0.4	-87.9	110.75	NM	
12:22	28.95	100		18.3	7.98	3124	NM	0.34	-106.3	106.29	NM	
12:25	28.95	100		18.2	8.05	3238	NM	0.32	-114.3	109.86	NM	
12:28	28.95	100		18.2	8.08	3295	NM	0.3	-123.9	108.65	NM	
12:31	28.95	100		18.1	8.1	3348	NM	0.28	-126.8	111.5	NM	
12:34	28.95	100	2.4	18.1	8.12	3383	NM	0.28	-129.7	109.41	NM	

Sample ID(s): PA-30d-091124	Additional Comments 1 pump	SAMPLER NAME AND SIGNATURE ST 	Date Time 09/11/2024 19:37
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: PA-31
Well Permit No:

Date: 2024/09/11
Cloudy 65

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 11.65 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 105 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / - ()
Sampler paul vannevel	Volume of Water in Well / Total Volume Purged () / 3.4 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
11:22	11.89	75	0	17.4	9.56	788	NM	3.13	-59	8.47	NM	
11:25	11.93	142.9	0.35	16.8	9.61	738	NM	1.05	-76.9	16.31	NM	
11:28	11.93	122.5	0.65	16.6	9.6	737	NM	0.62	-83.3	43.82	NM	
11:31	11.93	110.7	1	16.6	9.59	742	NM	0.42	-87.4	56.99	NM	
11:34	11.93	94.9	1.3	16.6	9.58	745	NM	0.3	-90.8	68.92	NM	
11:37	11.93	86.6	1.6	16.8	9.58	745	NM	0.21	-93.7	78.21	NM	
11:40	11.93	106.1	1.9	16.9	9.58	747	NM	0.18	-96.1	86.77	NM	
11:43	11.93	122.5	2.2	16.8	9.58	748	NM	0.18	-97.7	96.68	NM	
11:46	11.93	94.9	2.5	16.7	9.57	749	NM	0.17	-98.8	105.5	NM	
11:49	11.63	94.9	2.8	16.8	9.57	750	NM	0.17	-99.9	120.61	NM	
11:52	11.93	86.6	3.1	16.8	9.57	751	NM	0.17	-101	127.48	NM	
11:55	11.93	122.5	3.4	16.8	9.56	752	NM	0.18	-101.6	132.65	NM	

Sample ID(s): PA-31-091124	Additional Comments Peri pump used	SAMPLER NAME AND SIGNATURE PV	Date Time 09/11/2024 19:10
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: PA-32I
Well Permit No:

Date: 2024/09/11
Cloudy 70

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 24.85 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 89.8 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / - ()
Sampler paul vannevel	Volume of Water in Well / Total Volume Purged () / 1.25 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
12:29	24.85	100	0	18.6	7.45	1293	NM	2.06	-105.4	68.21	NM	
12:32	24.85	112.5	0.225	18.1	7.46	1365	NM	0.75	-151.3	344.5	NM	
12:35	24.85	79.4	0.5	17.8	7.49	1389	NM	0.29	-174.7	623	NM	
12:38	24.85	88.4	0.75	17.7	7.52	1392	NM	0.15	-185.7	763	NM	
12:41	24.85	79.1	1	17.6	7.53	1390	NM	0.08	-195.4	786.94	NM	
12:44	24.85	79.1	1.25	17.5	7.54	1381	NM	0.04	-201.8	798.5	NM	

Sample ID(s): PA-32i-091124	Additional Comments Peri pump used	SAMPLER NAME AND SIGNATURE PV 	Date Time 09/11/2024 20:05
Analysis:			



Low Flow Groundwater Sampling Field Data Form

Well ID: PA-44I
Well Permit No:

Date: 2024/09/10
Sunny 65

Site ID ARKEMA-PORTLAND	Purge Method / Pump Intake Depth Low Flow / 43.5 (ft)	Reference Elevation 40.36 (ft)
Site Address , Portland, US-OR	Purge Equipment NA	Depth to Water / Free Product 30.4 (ft) / None
Project Number 0732436	Sample Equipment NA	Total Well Depth (ft)
Project Name 20240909-GWMonitor	Average Purge Rate 193.9 (mL/min)	Well Diameter / Well Screen Interval 2 (in) / - ()
Sampler paul vannevel	Volume of Water in Well / Total Volume Purged () / 5.85 (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) ±3%	Total Conductivity (uS/cm) ±3%	Dissolved Oxygen (mg/L) ±10%	ORP (mV) ±10 mV	Turbidity (NTU) ±10%	Total Dissolved Solids(ppm) ±10%	Comments
10:51	30.43		0	19	6.8	570	NM	6.73	79	39.6	NM	
10:54	30.43	176.8	0.5	17.6	6.56	916	NM	2.47	83.4	36.06	NM	
10:57	30.41	212.1	1.1	17.3	6.52	1211	NM	1.14	76.6	32.52	NM	
11:00	30.42	173.2	1.7	17.1	6.5	1371	NM	0.7	69.1	31.41	NM	
11:03	30.41	194.5	2.25	16.9	6.49	1423	NM	0.49	63.6	33.04	NM	
11:06	30.44	189.7	2.85	16.9	6.49	1458	NM	0.37	56.4	34.87	NM	
11:09	30.42	189.7	3.45	17.1	6.48	1488	NM	0.27	47.7	39.78	NM	
11:12	30.42	173.2	4.05	17.1	6.48	1522	NM	0.2	33.7	42.77	NM	
11:15	30.42	173.2	4.65	17	6.47	1555	NM	0.17	26.5	45.95	NM	
11:18	30.43	212.1	5.25	17	6.47	1560	NM	0.13	21.4	48.24	NM	
11:21	30.43	244.9	5.85	16.8	6.46	1567	NM	0.1	21.8	51.9	NM	

Sample ID(s): PA-44i-091024	Additional Comments 2in bladder pump used	SAMPLER NAME AND SIGNATURE PV 	Date Time 09/10/2024 18:43
Analysis:			



APPENDIX B LABORATORY ANALYTICAL REPORTS



ANALYTICAL REPORT

PREPARED FOR

Attn: Avery Soplata
ERM-West
1050 SW 6th Avenue
Suite 1650
Portland, Oregon 97204
Generated 9/25/2024 9:40:38 AM

JOB DESCRIPTION

Arkema - Q3 2024 Groundwater Event

JOB NUMBER

580-143753-1

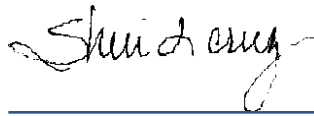
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Job Notes

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



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Authorized for release by
Sheri Cruz, Project Manager I
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Case Narrative

Client: ERM-West
Project: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Job ID: 580-143753-1

Eurofins Seattle

Job Narrative 580-143753-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided 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 9/11/2024 2:17 PM. 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 continuing calibration verification (CCV) associated with batch 580-471506 recovered outside acceptance criteria, low biased, for 2-Butanone (MEK). A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-471506 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: TB-090924 (580-143753-1), MWA-82-090924 (580-143753-2), PA-09-090924 (580-143753-3), PA-26d-090924 (580-143753-4), PA-25d-090924 (580-143753-5), PA-15i-090924 (580-143753-6), PA-08-090924 (580-143753-7), PA-03-090924 (580-143753-8), PA-27d-090924 (580-143753-9), PA-17iR-090924 (580-143753-10), PA-18d-090924 (580-143753-11) and (CCVIS 580-471506/3).

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: MWA-63-091024 (580-143753-20). Elevated reporting limits (RLs) are provided.

Method 8260D_LL: The continuing calibration verification (CCV) associated with batch 580-471506 recovered outside acceptance criteria, low biased, for 2-Butanone (MEK). A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D_LL: The continuing calibration verification (CCV) associated with batch 580-471506 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: TB-090924 (580-143753-1), MWA-82-090924 (580-143753-2), PA-09-090924 (580-143753-3), PA-26d-090924 (580-143753-4), PA-25d-090924 (580-143753-5), PA-15i-090924 (580-143753-6), PA-08-090924 (580-143753-7), PA-03-090924 (580-143753-8), PA-27d-090924 (580-143753-9), PA-17iR-090924 (580-143753-10), PA-18d-090924 (580-143753-11) and (CCVIS 580-471506/3).

Method 8260D_LL: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 580-471624 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.

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

HPLC/IC

Method 314.0: The following samples were diluted due to the nature of the sample matrix: PA-15i-090924 (580-143753-6), PA-08-090924 (580-143753-7), PA-03-090924 (580-143753-8), PA-27d-090924 (580-143753-9), PA-17iR-090924 (580-143753-10), PA-18d-090924 (580-143753-11), PA-23d-091024 (580-143753-15), PA-24d-091024 (580-143753-16), PA-04-091024 (580-143753-17), Dup-01-091024 (580-143753-18), PA-10i-091024 (580-143753-19) and PA-44i-091024 (580-143753-21). Elevated reporting limits (RLs) are provided.

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

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Case Narrative

Client: ERM-West
Project: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Job ID: 580-143753-1 (Continued)

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General Chemistry

Method 300.0_28D: Spike compounds were inadvertently omitted during the extraction process for the matrix spike/matrix spike duplicate (MS/MSD); therefore, matrix spike recoveries are unavailable for analytical batch 580-472313. The associated laboratory control sample (LCS) met acceptance criteria.

Method 300.0_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 580-472583 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.

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

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Definitions/Glossary

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

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.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

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 Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: TB-090924

Lab Sample ID: 580-143753-1

Date Collected: 09/09/24 00:01

Matrix: Water

Date Received: 09/11/24 14:17

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			09/15/24 10:34	1
Chloromethane	ND		0.50	0.14	ug/L			09/15/24 10:34	1
Vinyl chloride	ND		0.10	0.040	ug/L			09/15/24 10:34	1
Bromomethane	ND		0.50	0.13	ug/L			09/15/24 10:34	1
Chloroethane	ND		0.50	0.24	ug/L			09/15/24 10:34	1
Carbon disulfide	ND		0.40	0.20	ug/L			09/15/24 10:34	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/15/24 10:34	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			09/15/24 10:34	1
Acetone	ND		10	3.1	ug/L			09/15/24 10:34	1
Methylene Chloride	ND		5.0	1.2	ug/L			09/15/24 10:34	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			09/15/24 10:34	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/15/24 10:34	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/15/24 10:34	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			09/15/24 10:34	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/15/24 10:34	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			09/15/24 10:34	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/15/24 10:34	1
Chloroform	ND		0.20	0.030	ug/L			09/15/24 10:34	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			09/15/24 10:34	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/15/24 10:34	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/15/24 10:34	1
Benzene	ND		0.20	0.030	ug/L			09/15/24 10:34	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			09/15/24 10:34	1
Trichloroethene	ND		0.20	0.066	ug/L			09/15/24 10:34	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/15/24 10:34	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/15/24 10:34	1
Dibromomethane	ND		0.20	0.062	ug/L			09/15/24 10:34	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/15/24 10:34	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/15/24 10:34	1
Toluene	ND		0.20	0.050	ug/L			09/15/24 10:34	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/15/24 10:34	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/15/24 10:34	1
Tetrachloroethene	ND		0.24	0.084	ug/L			09/15/24 10:34	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/15/24 10:34	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/15/24 10:34	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/15/24 10:34	1
Chlorobenzene	ND		0.20	0.060	ug/L			09/15/24 10:34	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/15/24 10:34	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/15/24 10:34	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/15/24 10:34	1
o-Xylene	ND		0.50	0.23	ug/L			09/15/24 10:34	1
Styrene	ND		1.0	0.33	ug/L			09/15/24 10:34	1
Bromoform	ND		0.50	0.16	ug/L			09/15/24 10:34	1
Isopropylbenzene	ND		1.0	0.27	ug/L			09/15/24 10:34	1
Bromobenzene	ND		0.20	0.038	ug/L			09/15/24 10:34	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/15/24 10:34	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/15/24 10:34	1
N-Propylbenzene	ND		0.30	0.091	ug/L			09/15/24 10:34	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/15/24 10:34	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: TB-090924

Lab Sample ID: 580-143753-1

Date Collected: 09/09/24 00:01

Matrix: Water

Date Received: 09/11/24 14:17

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			09/15/24 10:34	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/15/24 10:34	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/15/24 10:34	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/15/24 10:34	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/15/24 10:34	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/15/24 10:34	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/15/24 10:34	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/15/24 10:34	1
n-Butylbenzene	ND		1.0	0.35	ug/L			09/15/24 10:34	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			09/15/24 10:34	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/15/24 10:34	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/15/24 10:34	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/15/24 10:34	1
Naphthalene	ND		1.5	0.52	ug/L			09/15/24 10:34	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/15/24 10:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 120		09/15/24 10:34	1
Dibromofluoromethane (Surr)	107		80 - 120		09/15/24 10:34	1
4-Bromofluorobenzene (Surr)	102		80 - 120		09/15/24 10:34	1
1,2-Dichloroethane-d4 (Surr)	98		80 - 120		09/15/24 10:34	1

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: MWA-82-090924

Lab Sample ID: 580-143753-2

Date Collected: 09/09/24 07:29

Matrix: Water

Date Received: 09/11/24 14:17

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			09/15/24 12:53	1
Chloromethane	ND		0.50	0.14	ug/L			09/15/24 12:53	1
Vinyl chloride	ND		0.10	0.040	ug/L			09/15/24 12:53	1
Bromomethane	ND		0.50	0.13	ug/L			09/15/24 12:53	1
Chloroethane	ND		0.50	0.24	ug/L			09/15/24 12:53	1
Carbon disulfide	ND		0.40	0.20	ug/L			09/15/24 12:53	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/15/24 12:53	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			09/15/24 12:53	1
Acetone	ND		10	3.1	ug/L			09/15/24 12:53	1
Methylene Chloride	ND		5.0	1.2	ug/L			09/15/24 12:53	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			09/15/24 12:53	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/15/24 12:53	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/15/24 12:53	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			09/15/24 12:53	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/15/24 12:53	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			09/15/24 12:53	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/15/24 12:53	1
Chloroform	1.6		0.20	0.030	ug/L			09/15/24 12:53	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			09/15/24 12:53	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/15/24 12:53	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/15/24 12:53	1
Benzene	ND		0.20	0.030	ug/L			09/15/24 12:53	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			09/15/24 12:53	1
Trichloroethene	0.12	J	0.20	0.066	ug/L			09/15/24 12:53	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/15/24 12:53	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/15/24 12:53	1
Dibromomethane	ND		0.20	0.062	ug/L			09/15/24 12:53	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/15/24 12:53	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/15/24 12:53	1
Toluene	ND		0.20	0.050	ug/L			09/15/24 12:53	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/15/24 12:53	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/15/24 12:53	1
Tetrachloroethene	0.34		0.24	0.084	ug/L			09/15/24 12:53	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/15/24 12:53	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/15/24 12:53	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/15/24 12:53	1
Chlorobenzene	ND		0.20	0.060	ug/L			09/15/24 12:53	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/15/24 12:53	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/15/24 12:53	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/15/24 12:53	1
o-Xylene	ND		0.50	0.23	ug/L			09/15/24 12:53	1
Styrene	ND		1.0	0.33	ug/L			09/15/24 12:53	1
Bromoform	ND		0.50	0.16	ug/L			09/15/24 12:53	1
Isopropylbenzene	ND		1.0	0.27	ug/L			09/15/24 12:53	1
Bromobenzene	ND		0.20	0.038	ug/L			09/15/24 12:53	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/15/24 12:53	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/15/24 12:53	1
N-Propylbenzene	ND		0.30	0.091	ug/L			09/15/24 12:53	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/15/24 12:53	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: MWA-82-090924

Lab Sample ID: 580-143753-2

Date Collected: 09/09/24 07:29

Matrix: Water

Date Received: 09/11/24 14:17

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			09/15/24 12:53	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/15/24 12:53	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/15/24 12:53	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/15/24 12:53	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/15/24 12:53	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/15/24 12:53	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/15/24 12:53	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/15/24 12:53	1
n-Butylbenzene	ND		1.0	0.35	ug/L			09/15/24 12:53	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			09/15/24 12:53	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/15/24 12:53	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/15/24 12:53	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/15/24 12:53	1
Naphthalene	ND		1.5	0.52	ug/L			09/15/24 12:53	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/15/24 12:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		80 - 120		09/15/24 12:53	1
Dibromofluoromethane (Surr)	104		80 - 120		09/15/24 12:53	1
4-Bromofluorobenzene (Surr)	102		80 - 120		09/15/24 12:53	1
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		09/15/24 12:53	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	220		10	4.5	ug/L			09/19/24 06:36	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	11		1.5	0.43	mg/L			09/21/24 07:22	1

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-09-090924

Lab Sample ID: 580-143753-3

Date Collected: 09/09/24 08:32

Matrix: Water

Date Received: 09/11/24 14:17

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			09/15/24 13:16	1
Chloromethane	ND		0.50	0.14	ug/L			09/15/24 13:16	1
Vinyl chloride	ND		0.10	0.040	ug/L			09/15/24 13:16	1
Bromomethane	ND		0.50	0.13	ug/L			09/15/24 13:16	1
Chloroethane	ND		0.50	0.24	ug/L			09/15/24 13:16	1
Carbon disulfide	ND		0.40	0.20	ug/L			09/15/24 13:16	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/15/24 13:16	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			09/15/24 13:16	1
Acetone	ND		10	3.1	ug/L			09/15/24 13:16	1
Methylene Chloride	ND		5.0	1.2	ug/L			09/15/24 13:16	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			09/15/24 13:16	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/15/24 13:16	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/15/24 13:16	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			09/15/24 13:16	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/15/24 13:16	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			09/15/24 13:16	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/15/24 13:16	1
Chloroform	0.18	J	0.20	0.030	ug/L			09/15/24 13:16	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			09/15/24 13:16	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/15/24 13:16	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/15/24 13:16	1
Benzene	ND		0.20	0.030	ug/L			09/15/24 13:16	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			09/15/24 13:16	1
Trichloroethene	0.17	J	0.20	0.066	ug/L			09/15/24 13:16	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/15/24 13:16	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/15/24 13:16	1
Dibromomethane	ND		0.20	0.062	ug/L			09/15/24 13:16	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/15/24 13:16	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/15/24 13:16	1
Toluene	ND		0.20	0.050	ug/L			09/15/24 13:16	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/15/24 13:16	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/15/24 13:16	1
Tetrachloroethene	0.29		0.24	0.084	ug/L			09/15/24 13:16	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/15/24 13:16	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/15/24 13:16	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/15/24 13:16	1
Chlorobenzene	ND		0.20	0.060	ug/L			09/15/24 13:16	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/15/24 13:16	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/15/24 13:16	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/15/24 13:16	1
o-Xylene	ND		0.50	0.23	ug/L			09/15/24 13:16	1
Styrene	ND		1.0	0.33	ug/L			09/15/24 13:16	1
Bromoform	ND		0.50	0.16	ug/L			09/15/24 13:16	1
Isopropylbenzene	ND		1.0	0.27	ug/L			09/15/24 13:16	1
Bromobenzene	ND		0.20	0.038	ug/L			09/15/24 13:16	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/15/24 13:16	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/15/24 13:16	1
N-Propylbenzene	ND		0.30	0.091	ug/L			09/15/24 13:16	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/15/24 13:16	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-09-090924

Lab Sample ID: 580-143753-3

Date Collected: 09/09/24 08:32

Matrix: Water

Date Received: 09/11/24 14:17

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			09/15/24 13:16	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/15/24 13:16	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/15/24 13:16	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/15/24 13:16	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/15/24 13:16	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/15/24 13:16	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/15/24 13:16	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/15/24 13:16	1
n-Butylbenzene	ND		1.0	0.35	ug/L			09/15/24 13:16	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			09/15/24 13:16	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/15/24 13:16	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/15/24 13:16	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/15/24 13:16	1
Naphthalene	ND		1.5	0.52	ug/L			09/15/24 13:16	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/15/24 13:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 120		09/15/24 13:16	1
Dibromofluoromethane (Surr)	108		80 - 120		09/15/24 13:16	1
4-Bromofluorobenzene (Surr)	102		80 - 120		09/15/24 13:16	1
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		09/15/24 13:16	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	84		10	4.5	ug/L			09/19/24 06:55	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	15		1.5	0.43	mg/L			09/21/24 07:34	1

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-26d-090924

Lab Sample ID: 580-143753-4

Date Collected: 09/09/24 09:27

Matrix: Water

Date Received: 09/11/24 14:17

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			09/15/24 13:39	1
Chloromethane	ND		0.50	0.14	ug/L			09/15/24 13:39	1
Vinyl chloride	ND		0.10	0.040	ug/L			09/15/24 13:39	1
Bromomethane	ND		0.50	0.13	ug/L			09/15/24 13:39	1
Chloroethane	ND		0.50	0.24	ug/L			09/15/24 13:39	1
Carbon disulfide	ND		0.40	0.20	ug/L			09/15/24 13:39	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/15/24 13:39	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			09/15/24 13:39	1
Acetone	ND		10	3.1	ug/L			09/15/24 13:39	1
Methylene Chloride	ND		5.0	1.2	ug/L			09/15/24 13:39	1
Methyl tert-butyl ether	0.14	J	0.30	0.070	ug/L			09/15/24 13:39	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/15/24 13:39	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/15/24 13:39	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			09/15/24 13:39	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/15/24 13:39	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			09/15/24 13:39	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/15/24 13:39	1
Chloroform	ND		0.20	0.030	ug/L			09/15/24 13:39	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			09/15/24 13:39	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/15/24 13:39	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/15/24 13:39	1
Benzene	ND		0.20	0.030	ug/L			09/15/24 13:39	1
1,2-Dichloroethane	0.29		0.25	0.12	ug/L			09/15/24 13:39	1
Trichloroethene	ND		0.20	0.066	ug/L			09/15/24 13:39	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/15/24 13:39	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/15/24 13:39	1
Dibromomethane	ND		0.20	0.062	ug/L			09/15/24 13:39	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/15/24 13:39	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/15/24 13:39	1
Toluene	ND		0.20	0.050	ug/L			09/15/24 13:39	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/15/24 13:39	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/15/24 13:39	1
Tetrachloroethene	ND		0.24	0.084	ug/L			09/15/24 13:39	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/15/24 13:39	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/15/24 13:39	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/15/24 13:39	1
Chlorobenzene	ND		0.20	0.060	ug/L			09/15/24 13:39	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/15/24 13:39	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/15/24 13:39	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/15/24 13:39	1
o-Xylene	ND		0.50	0.23	ug/L			09/15/24 13:39	1
Styrene	ND		1.0	0.33	ug/L			09/15/24 13:39	1
Bromoform	ND		0.50	0.16	ug/L			09/15/24 13:39	1
Isopropylbenzene	ND		1.0	0.27	ug/L			09/15/24 13:39	1
Bromobenzene	ND		0.20	0.038	ug/L			09/15/24 13:39	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/15/24 13:39	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/15/24 13:39	1
N-Propylbenzene	ND		0.30	0.091	ug/L			09/15/24 13:39	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/15/24 13:39	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-26d-090924

Lab Sample ID: 580-143753-4

Date Collected: 09/09/24 09:27

Matrix: Water

Date Received: 09/11/24 14:17

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			09/15/24 13:39	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/15/24 13:39	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/15/24 13:39	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/15/24 13:39	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/15/24 13:39	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/15/24 13:39	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/15/24 13:39	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/15/24 13:39	1
n-Butylbenzene	ND		1.0	0.35	ug/L			09/15/24 13:39	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			09/15/24 13:39	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/15/24 13:39	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/15/24 13:39	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/15/24 13:39	1
Naphthalene	ND		1.5	0.52	ug/L			09/15/24 13:39	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/15/24 13:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120		09/15/24 13:39	1
Dibromofluoromethane (Surr)	105		80 - 120		09/15/24 13:39	1
4-Bromofluorobenzene (Surr)	100		80 - 120		09/15/24 13:39	1
1,2-Dichloroethane-d4 (Surr)	99		80 - 120		09/15/24 13:39	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			09/18/24 22:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	60		1.5	0.43	mg/L			09/21/24 07:46	1

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-25d-090924

Lab Sample ID: 580-143753-5

Date Collected: 09/09/24 10:21

Matrix: Water

Date Received: 09/11/24 14:17

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			09/15/24 14:02	1
Chloromethane	ND		0.50	0.14	ug/L			09/15/24 14:02	1
Vinyl chloride	ND		0.10	0.040	ug/L			09/15/24 14:02	1
Bromomethane	ND		0.50	0.13	ug/L			09/15/24 14:02	1
Chloroethane	ND		0.50	0.24	ug/L			09/15/24 14:02	1
Carbon disulfide	ND		0.40	0.20	ug/L			09/15/24 14:02	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/15/24 14:02	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			09/15/24 14:02	1
Acetone	ND		10	3.1	ug/L			09/15/24 14:02	1
Methylene Chloride	ND		5.0	1.2	ug/L			09/15/24 14:02	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			09/15/24 14:02	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/15/24 14:02	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/15/24 14:02	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			09/15/24 14:02	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/15/24 14:02	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			09/15/24 14:02	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/15/24 14:02	1
Chloroform	ND		0.20	0.030	ug/L			09/15/24 14:02	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			09/15/24 14:02	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/15/24 14:02	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/15/24 14:02	1
Benzene	ND		0.20	0.030	ug/L			09/15/24 14:02	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			09/15/24 14:02	1
Trichloroethene	ND		0.20	0.066	ug/L			09/15/24 14:02	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/15/24 14:02	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/15/24 14:02	1
Dibromomethane	ND		0.20	0.062	ug/L			09/15/24 14:02	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/15/24 14:02	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/15/24 14:02	1
Toluene	ND		0.20	0.050	ug/L			09/15/24 14:02	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/15/24 14:02	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/15/24 14:02	1
Tetrachloroethene	ND		0.24	0.084	ug/L			09/15/24 14:02	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/15/24 14:02	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/15/24 14:02	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/15/24 14:02	1
Chlorobenzene	ND		0.20	0.060	ug/L			09/15/24 14:02	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/15/24 14:02	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/15/24 14:02	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/15/24 14:02	1
o-Xylene	ND		0.50	0.23	ug/L			09/15/24 14:02	1
Styrene	ND		1.0	0.33	ug/L			09/15/24 14:02	1
Bromoform	ND		0.50	0.16	ug/L			09/15/24 14:02	1
Isopropylbenzene	ND		1.0	0.27	ug/L			09/15/24 14:02	1
Bromobenzene	ND		0.20	0.038	ug/L			09/15/24 14:02	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/15/24 14:02	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/15/24 14:02	1
N-Propylbenzene	ND		0.30	0.091	ug/L			09/15/24 14:02	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/15/24 14:02	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-25d-090924

Lab Sample ID: 580-143753-5

Date Collected: 09/09/24 10:21

Matrix: Water

Date Received: 09/11/24 14:17

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			09/15/24 14:02	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/15/24 14:02	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/15/24 14:02	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/15/24 14:02	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/15/24 14:02	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/15/24 14:02	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/15/24 14:02	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/15/24 14:02	1
n-Butylbenzene	ND		1.0	0.35	ug/L			09/15/24 14:02	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			09/15/24 14:02	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/15/24 14:02	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/15/24 14:02	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/15/24 14:02	1
Naphthalene	ND		1.5	0.52	ug/L			09/15/24 14:02	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/15/24 14:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120		09/15/24 14:02	1
Dibromofluoromethane (Surr)	103		80 - 120		09/15/24 14:02	1
4-Bromofluorobenzene (Surr)	99		80 - 120		09/15/24 14:02	1
1,2-Dichloroethane-d4 (Surr)	100		80 - 120		09/15/24 14:02	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			09/18/24 22:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	21		1.5	0.43	mg/L			09/21/24 08:09	1

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-15i-090924

Lab Sample ID: 580-143753-6

Date Collected: 09/09/24 11:36

Matrix: Water

Date Received: 09/11/24 14:17

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			09/15/24 14:25	1
Chloromethane	ND		0.50	0.14	ug/L			09/15/24 14:25	1
Vinyl chloride	ND		0.10	0.040	ug/L			09/15/24 14:25	1
Bromomethane	ND		0.50	0.13	ug/L			09/15/24 14:25	1
Chloroethane	ND		0.50	0.24	ug/L			09/15/24 14:25	1
Carbon disulfide	ND		0.40	0.20	ug/L			09/15/24 14:25	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/15/24 14:25	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			09/15/24 14:25	1
Acetone	ND		10	3.1	ug/L			09/15/24 14:25	1
Methylene Chloride	ND		5.0	1.2	ug/L			09/15/24 14:25	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			09/15/24 14:25	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/15/24 14:25	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/15/24 14:25	1
1,1-Dichloroethane	0.19	J	0.20	0.064	ug/L			09/15/24 14:25	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/15/24 14:25	1
cis-1,2-Dichloroethene	0.077	J	0.20	0.055	ug/L			09/15/24 14:25	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/15/24 14:25	1
Chloroform	ND		0.20	0.030	ug/L			09/15/24 14:25	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			09/15/24 14:25	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/15/24 14:25	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/15/24 14:25	1
Benzene	ND		0.20	0.030	ug/L			09/15/24 14:25	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			09/15/24 14:25	1
Trichloroethene	ND		0.20	0.066	ug/L			09/15/24 14:25	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/15/24 14:25	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/15/24 14:25	1
Dibromomethane	ND		0.20	0.062	ug/L			09/15/24 14:25	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/15/24 14:25	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/15/24 14:25	1
Toluene	ND		0.20	0.050	ug/L			09/15/24 14:25	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/15/24 14:25	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/15/24 14:25	1
Tetrachloroethene	ND		0.24	0.084	ug/L			09/15/24 14:25	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/15/24 14:25	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/15/24 14:25	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/15/24 14:25	1
Chlorobenzene	ND		0.20	0.060	ug/L			09/15/24 14:25	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/15/24 14:25	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/15/24 14:25	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/15/24 14:25	1
o-Xylene	ND		0.50	0.23	ug/L			09/15/24 14:25	1
Styrene	ND		1.0	0.33	ug/L			09/15/24 14:25	1
Bromoform	ND		0.50	0.16	ug/L			09/15/24 14:25	1
Isopropylbenzene	ND		1.0	0.27	ug/L			09/15/24 14:25	1
Bromobenzene	ND		0.20	0.038	ug/L			09/15/24 14:25	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/15/24 14:25	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/15/24 14:25	1
N-Propylbenzene	ND		0.30	0.091	ug/L			09/15/24 14:25	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/15/24 14:25	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-15i-090924

Lab Sample ID: 580-143753-6

Date Collected: 09/09/24 11:36

Matrix: Water

Date Received: 09/11/24 14:17

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			09/15/24 14:25	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/15/24 14:25	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/15/24 14:25	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/15/24 14:25	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/15/24 14:25	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/15/24 14:25	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/15/24 14:25	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/15/24 14:25	1
n-Butylbenzene	ND		1.0	0.35	ug/L			09/15/24 14:25	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			09/15/24 14:25	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/15/24 14:25	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/15/24 14:25	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/15/24 14:25	1
Naphthalene	ND		1.5	0.52	ug/L			09/15/24 14:25	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/15/24 14:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120		09/15/24 14:25	1
Dibromofluoromethane (Surr)	101		80 - 120		09/15/24 14:25	1
4-Bromofluorobenzene (Surr)	99		80 - 120		09/15/24 14:25	1
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		09/15/24 14:25	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	9.1	ug/L			09/18/24 22:53	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	59		1.5	0.43	mg/L			09/21/24 08:21	1

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-08-090924

Lab Sample ID: 580-143753-7

Date Collected: 09/09/24 12:23

Matrix: Water

Date Received: 09/11/24 14:17

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			09/15/24 14:48	1
Chloromethane	ND		0.50	0.14	ug/L			09/15/24 14:48	1
Vinyl chloride	ND		0.10	0.040	ug/L			09/15/24 14:48	1
Bromomethane	ND		0.50	0.13	ug/L			09/15/24 14:48	1
Chloroethane	ND		0.50	0.24	ug/L			09/15/24 14:48	1
Carbon disulfide	ND		0.40	0.20	ug/L			09/15/24 14:48	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/15/24 14:48	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			09/15/24 14:48	1
Acetone	ND		10	3.1	ug/L			09/15/24 14:48	1
Methylene Chloride	ND		5.0	1.2	ug/L			09/15/24 14:48	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			09/15/24 14:48	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/15/24 14:48	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/15/24 14:48	1
1,1-Dichloroethane	0.11	J	0.20	0.064	ug/L			09/15/24 14:48	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/15/24 14:48	1
cis-1,2-Dichloroethene	0.15	J	0.20	0.055	ug/L			09/15/24 14:48	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/15/24 14:48	1
Chloroform	0.061	J	0.20	0.030	ug/L			09/15/24 14:48	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			09/15/24 14:48	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/15/24 14:48	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/15/24 14:48	1
Benzene	ND		0.20	0.030	ug/L			09/15/24 14:48	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			09/15/24 14:48	1
Trichloroethene	0.12	J	0.20	0.066	ug/L			09/15/24 14:48	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/15/24 14:48	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/15/24 14:48	1
Dibromomethane	ND		0.20	0.062	ug/L			09/15/24 14:48	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/15/24 14:48	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/15/24 14:48	1
Toluene	ND		0.20	0.050	ug/L			09/15/24 14:48	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/15/24 14:48	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/15/24 14:48	1
Tetrachloroethene	0.18	J	0.24	0.084	ug/L			09/15/24 14:48	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/15/24 14:48	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/15/24 14:48	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/15/24 14:48	1
Chlorobenzene	ND		0.20	0.060	ug/L			09/15/24 14:48	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/15/24 14:48	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/15/24 14:48	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/15/24 14:48	1
o-Xylene	ND		0.50	0.23	ug/L			09/15/24 14:48	1
Styrene	ND		1.0	0.33	ug/L			09/15/24 14:48	1
Bromoform	ND		0.50	0.16	ug/L			09/15/24 14:48	1
Isopropylbenzene	ND		1.0	0.27	ug/L			09/15/24 14:48	1
Bromobenzene	ND		0.20	0.038	ug/L			09/15/24 14:48	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/15/24 14:48	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/15/24 14:48	1
N-Propylbenzene	ND		0.30	0.091	ug/L			09/15/24 14:48	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/15/24 14:48	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-08-090924

Lab Sample ID: 580-143753-7

Date Collected: 09/09/24 12:23

Matrix: Water

Date Received: 09/11/24 14:17

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			09/15/24 14:48	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/15/24 14:48	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/15/24 14:48	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/15/24 14:48	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/15/24 14:48	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/15/24 14:48	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/15/24 14:48	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/15/24 14:48	1
n-Butylbenzene	ND		1.0	0.35	ug/L			09/15/24 14:48	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			09/15/24 14:48	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/15/24 14:48	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/15/24 14:48	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/15/24 14:48	1
Naphthalene	ND		1.5	0.52	ug/L			09/15/24 14:48	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/15/24 14:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		80 - 120		09/15/24 14:48	1
Dibromofluoromethane (Surr)	105		80 - 120		09/15/24 14:48	1
4-Bromofluorobenzene (Surr)	101		80 - 120		09/15/24 14:48	1
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		09/15/24 14:48	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	9.1	ug/L			09/18/24 23:13	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	280		15	4.3	mg/L			09/21/24 09:21	10

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-03-090924

Lab Sample ID: 580-143753-8

Date Collected: 09/09/24 08:58

Matrix: Water

Date Received: 09/11/24 14:17

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			09/15/24 15:11	1
Chloromethane	0.29	J	0.50	0.14	ug/L			09/15/24 15:11	1
Vinyl chloride	ND		0.10	0.040	ug/L			09/15/24 15:11	1
Bromomethane	ND		0.50	0.13	ug/L			09/15/24 15:11	1
Chloroethane	ND		0.50	0.24	ug/L			09/15/24 15:11	1
Carbon disulfide	ND		0.40	0.20	ug/L			09/15/24 15:11	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/15/24 15:11	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			09/15/24 15:11	1
Acetone	ND		10	3.1	ug/L			09/15/24 15:11	1
Methylene Chloride	ND		5.0	1.2	ug/L			09/15/24 15:11	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			09/15/24 15:11	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/15/24 15:11	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/15/24 15:11	1
1,1-Dichloroethane	0.16	J	0.20	0.064	ug/L			09/15/24 15:11	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/15/24 15:11	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			09/15/24 15:11	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/15/24 15:11	1
Chloroform	ND		0.20	0.030	ug/L			09/15/24 15:11	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			09/15/24 15:11	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/15/24 15:11	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/15/24 15:11	1
Benzene	0.059	J	0.20	0.030	ug/L			09/15/24 15:11	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			09/15/24 15:11	1
Trichloroethene	ND		0.20	0.066	ug/L			09/15/24 15:11	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/15/24 15:11	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/15/24 15:11	1
Dibromomethane	ND		0.20	0.062	ug/L			09/15/24 15:11	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/15/24 15:11	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/15/24 15:11	1
Toluene	0.12	J	0.20	0.050	ug/L			09/15/24 15:11	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/15/24 15:11	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/15/24 15:11	1
Tetrachloroethene	ND		0.24	0.084	ug/L			09/15/24 15:11	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/15/24 15:11	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/15/24 15:11	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/15/24 15:11	1
Chlorobenzene	ND		0.20	0.060	ug/L			09/15/24 15:11	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/15/24 15:11	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/15/24 15:11	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/15/24 15:11	1
o-Xylene	ND		0.50	0.23	ug/L			09/15/24 15:11	1
Styrene	ND		1.0	0.33	ug/L			09/15/24 15:11	1
Bromoform	ND		0.50	0.16	ug/L			09/15/24 15:11	1
Isopropylbenzene	ND		1.0	0.27	ug/L			09/15/24 15:11	1
Bromobenzene	ND		0.20	0.038	ug/L			09/15/24 15:11	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/15/24 15:11	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/15/24 15:11	1
N-Propylbenzene	ND		0.30	0.091	ug/L			09/15/24 15:11	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/15/24 15:11	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-03-090924

Lab Sample ID: 580-143753-8

Date Collected: 09/09/24 08:58

Matrix: Water

Date Received: 09/11/24 14:17

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			09/15/24 15:11	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/15/24 15:11	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/15/24 15:11	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/15/24 15:11	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/15/24 15:11	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/15/24 15:11	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/15/24 15:11	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/15/24 15:11	1
n-Butylbenzene	ND		1.0	0.35	ug/L			09/15/24 15:11	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			09/15/24 15:11	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/15/24 15:11	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/15/24 15:11	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/15/24 15:11	1
Naphthalene	ND		1.5	0.52	ug/L			09/15/24 15:11	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/15/24 15:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120		09/15/24 15:11	1
Dibromofluoromethane (Surr)	107		80 - 120		09/15/24 15:11	1
4-Bromofluorobenzene (Surr)	100		80 - 120		09/15/24 15:11	1
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		09/15/24 15:11	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	9.1	ug/L			09/18/24 23:33	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	3.8		1.5	0.43	mg/L			09/21/24 09:33	1

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-27d-090924

Lab Sample ID: 580-143753-9

Date Collected: 09/09/24 10:20

Matrix: Water

Date Received: 09/11/24 14:17

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			09/15/24 15:34	1
Chloromethane	ND		1.0	0.28	ug/L			09/15/24 15:34	1
Vinyl chloride	ND		1.0	0.22	ug/L			09/15/24 15:34	1
Bromomethane	ND		1.0	0.21	ug/L			09/15/24 15:34	1
Chloroethane	ND		1.0	0.35	ug/L			09/15/24 15:34	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			09/15/24 15:34	1
Carbon disulfide	ND		1.0	0.53	ug/L			09/15/24 15:34	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			09/15/24 15:34	1
Acetone	ND		15	3.2	ug/L			09/15/24 15:34	1
Methylene Chloride	ND		5.0	1.4	ug/L			09/15/24 15:34	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			09/15/24 15:34	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			09/15/24 15:34	1
1,1-Dichloroethane	0.28	J	1.0	0.22	ug/L			09/15/24 15:34	1
2-Butanone (MEK)	ND		15	4.7	ug/L			09/15/24 15:34	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			09/15/24 15:34	1
cis-1,2-Dichloroethene	0.67	J	1.0	0.35	ug/L			09/15/24 15:34	1
Chlorobromomethane	ND		1.0	0.29	ug/L			09/15/24 15:34	1
Chloroform	ND		1.0	0.26	ug/L			09/15/24 15:34	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			09/15/24 15:34	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			09/15/24 15:34	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			09/15/24 15:34	1
Benzene	ND		1.0	0.24	ug/L			09/15/24 15:34	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			09/15/24 15:34	1
Trichloroethene	ND		1.0	0.26	ug/L			09/15/24 15:34	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			09/15/24 15:34	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/15/24 15:34	1
Dibromomethane	ND		1.0	0.34	ug/L			09/15/24 15:34	1
Bromodichloromethane	ND		1.0	0.29	ug/L			09/15/24 15:34	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			09/15/24 15:34	1
Toluene	ND		1.0	0.39	ug/L			09/15/24 15:34	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			09/15/24 15:34	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			09/15/24 15:34	1
Tetrachloroethene	ND		1.0	0.41	ug/L			09/15/24 15:34	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			09/15/24 15:34	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			09/15/24 15:34	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			09/15/24 15:34	1
Chlorobenzene	ND		1.0	0.44	ug/L			09/15/24 15:34	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			09/15/24 15:34	1
Ethylbenzene	ND		1.0	0.50	ug/L			09/15/24 15:34	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			09/15/24 15:34	1
o-Xylene	ND		1.0	0.39	ug/L			09/15/24 15:34	1
Styrene	ND		1.0	0.53	ug/L			09/15/24 15:34	1
Bromoform	ND		1.0	0.51	ug/L			09/15/24 15:34	1
Isopropylbenzene	ND		1.0	0.44	ug/L			09/15/24 15:34	1
Bromobenzene	ND		1.0	0.43	ug/L			09/15/24 15:34	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			09/15/24 15:34	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			09/15/24 15:34	1
N-Propylbenzene	ND		1.0	0.50	ug/L			09/15/24 15:34	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			09/15/24 15:34	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-27d-090924

Lab Sample ID: 580-143753-9

Date Collected: 09/09/24 10:20

Matrix: Water

Date Received: 09/11/24 14:17

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			09/15/24 15:34	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			09/15/24 15:34	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			09/15/24 15:34	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			09/15/24 15:34	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			09/15/24 15:34	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			09/15/24 15:34	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			09/15/24 15:34	1
n-Butylbenzene	ND		1.0	0.44	ug/L			09/15/24 15:34	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			09/15/24 15:34	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			09/15/24 15:34	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			09/15/24 15:34	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			09/15/24 15:34	1
Naphthalene	ND		3.0	0.93	ug/L			09/15/24 15:34	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			09/15/24 15:34	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			09/15/24 15:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 120		09/15/24 15:34	1
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		09/15/24 15:34	1
4-Bromofluorobenzene (Surr)	101		80 - 120		09/15/24 15:34	1
Dibromofluoromethane (Surr)	103		80 - 120		09/15/24 15:34	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	9.1	ug/L			09/18/24 23:53	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	720		15	4.3	mg/L			09/21/24 09:57	10

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-17iR-090924

Lab Sample ID: 580-143753-10

Date Collected: 09/09/24 11:30

Matrix: Water

Date Received: 09/11/24 14:17

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			09/15/24 15:58	1
Chloromethane	ND		0.50	0.14	ug/L			09/15/24 15:58	1
Vinyl chloride	ND		0.10	0.040	ug/L			09/15/24 15:58	1
Bromomethane	ND		0.50	0.13	ug/L			09/15/24 15:58	1
Chloroethane	ND		0.50	0.24	ug/L			09/15/24 15:58	1
Carbon disulfide	0.23	J	0.40	0.20	ug/L			09/15/24 15:58	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/15/24 15:58	1
1,1-Dichloroethene	0.14	J	0.20	0.035	ug/L			09/15/24 15:58	1
Acetone	ND		10	3.1	ug/L			09/15/24 15:58	1
Methylene Chloride	ND		5.0	1.2	ug/L			09/15/24 15:58	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			09/15/24 15:58	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/15/24 15:58	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/15/24 15:58	1
1,1-Dichloroethane	0.097	J	0.20	0.064	ug/L			09/15/24 15:58	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/15/24 15:58	1
cis-1,2-Dichloroethene	0.10	J	0.20	0.055	ug/L			09/15/24 15:58	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/15/24 15:58	1
Chloroform	ND		0.20	0.030	ug/L			09/15/24 15:58	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			09/15/24 15:58	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/15/24 15:58	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/15/24 15:58	1
Benzene	0.078	J	0.20	0.030	ug/L			09/15/24 15:58	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			09/15/24 15:58	1
Trichloroethene	ND		0.20	0.066	ug/L			09/15/24 15:58	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/15/24 15:58	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/15/24 15:58	1
Dibromomethane	ND		0.20	0.062	ug/L			09/15/24 15:58	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/15/24 15:58	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/15/24 15:58	1
Toluene	ND		0.20	0.050	ug/L			09/15/24 15:58	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/15/24 15:58	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/15/24 15:58	1
Tetrachloroethene	ND		0.24	0.084	ug/L			09/15/24 15:58	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/15/24 15:58	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/15/24 15:58	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/15/24 15:58	1
Chlorobenzene	ND		0.20	0.060	ug/L			09/15/24 15:58	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/15/24 15:58	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/15/24 15:58	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/15/24 15:58	1
o-Xylene	ND		0.50	0.23	ug/L			09/15/24 15:58	1
Styrene	ND		1.0	0.33	ug/L			09/15/24 15:58	1
Bromoform	ND		0.50	0.16	ug/L			09/15/24 15:58	1
Isopropylbenzene	ND		1.0	0.27	ug/L			09/15/24 15:58	1
Bromobenzene	ND		0.20	0.038	ug/L			09/15/24 15:58	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/15/24 15:58	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/15/24 15:58	1
N-Propylbenzene	ND		0.30	0.091	ug/L			09/15/24 15:58	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/15/24 15:58	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-17iR-090924

Lab Sample ID: 580-143753-10

Date Collected: 09/09/24 11:30

Matrix: Water

Date Received: 09/11/24 14:17

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			09/15/24 15:58	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/15/24 15:58	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/15/24 15:58	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/15/24 15:58	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/15/24 15:58	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/15/24 15:58	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/15/24 15:58	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/15/24 15:58	1
n-Butylbenzene	ND		1.0	0.35	ug/L			09/15/24 15:58	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			09/15/24 15:58	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/15/24 15:58	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/15/24 15:58	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/15/24 15:58	1
Naphthalene	ND		1.5	0.52	ug/L			09/15/24 15:58	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/15/24 15:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120		09/15/24 15:58	1
Dibromofluoromethane (Surr)	105		80 - 120		09/15/24 15:58	1
4-Bromofluorobenzene (Surr)	102		80 - 120		09/15/24 15:58	1
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		09/15/24 15:58	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	9.1	ug/L			09/19/24 00:13	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	43		1.5	0.43	mg/L			09/21/24 10:20	1

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-18d-090924

Lab Sample ID: 580-143753-11

Date Collected: 09/09/24 12:58

Matrix: Water

Date Received: 09/11/24 14:17

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			09/15/24 16:21	1
Chloromethane	ND		1.0	0.28	ug/L			09/15/24 16:21	1
Vinyl chloride	0.41	J	1.0	0.22	ug/L			09/15/24 16:21	1
Bromomethane	ND		1.0	0.21	ug/L			09/15/24 16:21	1
Chloroethane	ND		1.0	0.35	ug/L			09/15/24 16:21	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			09/15/24 16:21	1
Carbon disulfide	ND		1.0	0.53	ug/L			09/15/24 16:21	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			09/15/24 16:21	1
Acetone	ND		15	3.2	ug/L			09/15/24 16:21	1
Methylene Chloride	ND		5.0	1.4	ug/L			09/15/24 16:21	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			09/15/24 16:21	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			09/15/24 16:21	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			09/15/24 16:21	1
2-Butanone (MEK)	ND		15	4.7	ug/L			09/15/24 16:21	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			09/15/24 16:21	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			09/15/24 16:21	1
Chlorobromomethane	ND		1.0	0.29	ug/L			09/15/24 16:21	1
Chloroform	ND		1.0	0.26	ug/L			09/15/24 16:21	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			09/15/24 16:21	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			09/15/24 16:21	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			09/15/24 16:21	1
Benzene	ND		1.0	0.24	ug/L			09/15/24 16:21	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			09/15/24 16:21	1
Trichloroethene	ND		1.0	0.26	ug/L			09/15/24 16:21	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			09/15/24 16:21	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/15/24 16:21	1
Dibromomethane	ND		1.0	0.34	ug/L			09/15/24 16:21	1
Bromodichloromethane	ND		1.0	0.29	ug/L			09/15/24 16:21	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			09/15/24 16:21	1
Toluene	ND		1.0	0.39	ug/L			09/15/24 16:21	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			09/15/24 16:21	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			09/15/24 16:21	1
Tetrachloroethene	ND		1.0	0.41	ug/L			09/15/24 16:21	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			09/15/24 16:21	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			09/15/24 16:21	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			09/15/24 16:21	1
Chlorobenzene	ND		1.0	0.44	ug/L			09/15/24 16:21	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			09/15/24 16:21	1
Ethylbenzene	ND		1.0	0.50	ug/L			09/15/24 16:21	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			09/15/24 16:21	1
o-Xylene	ND		1.0	0.39	ug/L			09/15/24 16:21	1
Styrene	ND		1.0	0.53	ug/L			09/15/24 16:21	1
Bromoform	ND		1.0	0.51	ug/L			09/15/24 16:21	1
Isopropylbenzene	ND		1.0	0.44	ug/L			09/15/24 16:21	1
Bromobenzene	ND		1.0	0.43	ug/L			09/15/24 16:21	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			09/15/24 16:21	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			09/15/24 16:21	1
N-Propylbenzene	ND		1.0	0.50	ug/L			09/15/24 16:21	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			09/15/24 16:21	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-18d-090924

Lab Sample ID: 580-143753-11

Date Collected: 09/09/24 12:58

Matrix: Water

Date Received: 09/11/24 14:17

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			09/15/24 16:21	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			09/15/24 16:21	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			09/15/24 16:21	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			09/15/24 16:21	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			09/15/24 16:21	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			09/15/24 16:21	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			09/15/24 16:21	1
n-Butylbenzene	ND		1.0	0.44	ug/L			09/15/24 16:21	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			09/15/24 16:21	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			09/15/24 16:21	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			09/15/24 16:21	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			09/15/24 16:21	1
Naphthalene	ND		3.0	0.93	ug/L			09/15/24 16:21	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			09/15/24 16:21	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			09/15/24 16:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 120		09/15/24 16:21	1
1,2-Dichloroethane-d4 (Surr)	101		80 - 120		09/15/24 16:21	1
4-Bromofluorobenzene (Surr)	100		80 - 120		09/15/24 16:21	1
Dibromofluoromethane (Surr)	108		80 - 120		09/15/24 16:21	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	9.1	ug/L			09/19/24 00:33	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	67		1.5	0.43	mg/L			09/21/24 10:32	1

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: RB-01-091024

Lab Sample ID: 580-143753-12

Date Collected: 09/10/24 06:00

Matrix: Water

Date Received: 09/11/24 14:17

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			09/17/24 02:34	1
Chloromethane	ND		0.50	0.14	ug/L			09/17/24 02:34	1
Vinyl chloride	ND		0.10	0.040	ug/L			09/17/24 02:34	1
Bromomethane	ND		0.50	0.13	ug/L			09/17/24 02:34	1
Chloroethane	ND		0.50	0.24	ug/L			09/17/24 02:34	1
Carbon disulfide	ND		0.40	0.20	ug/L			09/17/24 02:34	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/17/24 02:34	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			09/17/24 02:34	1
Acetone	ND		10	3.1	ug/L			09/17/24 02:34	1
Methylene Chloride	ND		5.0	1.2	ug/L			09/17/24 02:34	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			09/17/24 02:34	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/17/24 02:34	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/17/24 02:34	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			09/17/24 02:34	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/17/24 02:34	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			09/17/24 02:34	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/17/24 02:34	1
Chloroform	ND		0.20	0.030	ug/L			09/17/24 02:34	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			09/17/24 02:34	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/17/24 02:34	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/17/24 02:34	1
Benzene	ND		0.20	0.030	ug/L			09/17/24 02:34	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			09/17/24 02:34	1
Trichloroethene	ND		0.20	0.066	ug/L			09/17/24 02:34	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/17/24 02:34	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/17/24 02:34	1
Dibromomethane	ND		0.20	0.062	ug/L			09/17/24 02:34	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/17/24 02:34	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/17/24 02:34	1
Toluene	ND		0.20	0.050	ug/L			09/17/24 02:34	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/17/24 02:34	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/17/24 02:34	1
Tetrachloroethene	ND		0.24	0.084	ug/L			09/17/24 02:34	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/17/24 02:34	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/17/24 02:34	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/17/24 02:34	1
Chlorobenzene	ND		0.20	0.060	ug/L			09/17/24 02:34	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/17/24 02:34	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/17/24 02:34	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/17/24 02:34	1
o-Xylene	ND		0.50	0.23	ug/L			09/17/24 02:34	1
Styrene	ND		1.0	0.33	ug/L			09/17/24 02:34	1
Bromoform	ND		0.50	0.16	ug/L			09/17/24 02:34	1
Isopropylbenzene	ND		1.0	0.27	ug/L			09/17/24 02:34	1
Bromobenzene	ND		0.20	0.038	ug/L			09/17/24 02:34	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/17/24 02:34	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/17/24 02:34	1
N-Propylbenzene	ND		0.30	0.091	ug/L			09/17/24 02:34	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/17/24 02:34	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: RB-01-091024

Lab Sample ID: 580-143753-12

Date Collected: 09/10/24 06:00

Matrix: Water

Date Received: 09/11/24 14:17

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			09/17/24 02:34	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/17/24 02:34	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/17/24 02:34	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/17/24 02:34	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/17/24 02:34	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/17/24 02:34	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/17/24 02:34	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/17/24 02:34	1
n-Butylbenzene	ND		1.0	0.35	ug/L			09/17/24 02:34	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			09/17/24 02:34	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/17/24 02:34	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/17/24 02:34	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/17/24 02:34	1
Naphthalene	ND		1.5	0.52	ug/L			09/17/24 02:34	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/17/24 02:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		80 - 120		09/17/24 02:34	1
Dibromofluoromethane (Surr)	104		80 - 120		09/17/24 02:34	1
4-Bromofluorobenzene (Surr)	105		80 - 120		09/17/24 02:34	1
1,2-Dichloroethane-d4 (Surr)	99		80 - 120		09/17/24 02:34	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			09/19/24 00:53	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			09/21/24 10:44	1

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: MWA-41-091024

Lab Sample ID: 580-143753-13

Date Collected: 09/10/24 06:59

Matrix: Water

Date Received: 09/11/24 14:17

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			09/17/24 03:21	1
Chloromethane	ND		0.50	0.14	ug/L			09/17/24 03:21	1
Vinyl chloride	ND		0.10	0.040	ug/L			09/17/24 03:21	1
Bromomethane	ND		0.50	0.13	ug/L			09/17/24 03:21	1
Chloroethane	ND		0.50	0.24	ug/L			09/17/24 03:21	1
Carbon disulfide	ND		0.40	0.20	ug/L			09/17/24 03:21	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/17/24 03:21	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			09/17/24 03:21	1
Acetone	ND		10	3.1	ug/L			09/17/24 03:21	1
Methylene Chloride	ND		5.0	1.2	ug/L			09/17/24 03:21	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			09/17/24 03:21	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/17/24 03:21	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/17/24 03:21	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			09/17/24 03:21	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/17/24 03:21	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			09/17/24 03:21	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/17/24 03:21	1
Chloroform	ND		0.20	0.030	ug/L			09/17/24 03:21	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			09/17/24 03:21	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/17/24 03:21	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/17/24 03:21	1
Benzene	ND		0.20	0.030	ug/L			09/17/24 03:21	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			09/17/24 03:21	1
Trichloroethene	ND		0.20	0.066	ug/L			09/17/24 03:21	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/17/24 03:21	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/17/24 03:21	1
Dibromomethane	ND		0.20	0.062	ug/L			09/17/24 03:21	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/17/24 03:21	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/17/24 03:21	1
Toluene	ND		0.20	0.050	ug/L			09/17/24 03:21	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/17/24 03:21	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/17/24 03:21	1
Tetrachloroethene	ND		0.24	0.084	ug/L			09/17/24 03:21	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/17/24 03:21	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/17/24 03:21	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/17/24 03:21	1
Chlorobenzene	ND		0.20	0.060	ug/L			09/17/24 03:21	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/17/24 03:21	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/17/24 03:21	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/17/24 03:21	1
o-Xylene	ND		0.50	0.23	ug/L			09/17/24 03:21	1
Styrene	ND		1.0	0.33	ug/L			09/17/24 03:21	1
Bromoform	ND		0.50	0.16	ug/L			09/17/24 03:21	1
Isopropylbenzene	ND		1.0	0.27	ug/L			09/17/24 03:21	1
Bromobenzene	ND		0.20	0.038	ug/L			09/17/24 03:21	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/17/24 03:21	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/17/24 03:21	1
N-Propylbenzene	ND		0.30	0.091	ug/L			09/17/24 03:21	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/17/24 03:21	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: MWA-41-091024

Lab Sample ID: 580-143753-13

Date Collected: 09/10/24 06:59

Matrix: Water

Date Received: 09/11/24 14:17

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			09/17/24 03:21	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/17/24 03:21	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/17/24 03:21	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/17/24 03:21	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/17/24 03:21	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/17/24 03:21	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/17/24 03:21	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/17/24 03:21	1
n-Butylbenzene	ND		1.0	0.35	ug/L			09/17/24 03:21	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			09/17/24 03:21	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/17/24 03:21	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/17/24 03:21	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/17/24 03:21	1
Naphthalene	ND		1.5	0.52	ug/L			09/17/24 03:21	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/17/24 03:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		80 - 120		09/17/24 03:21	1
Dibromofluoromethane (Surr)	105		80 - 120		09/17/24 03:21	1
4-Bromofluorobenzene (Surr)	100		80 - 120		09/17/24 03:21	1
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		09/17/24 03:21	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			09/19/24 01:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	18		1.5	0.43	mg/L			09/21/24 10:56	1

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: MWA-81i-091024

Lab Sample ID: 580-143753-14

Date Collected: 09/10/24 07:40

Matrix: Water

Date Received: 09/11/24 14:17

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			09/17/24 03:44	1
Chloromethane	ND		0.50	0.14	ug/L			09/17/24 03:44	1
Vinyl chloride	ND		0.10	0.040	ug/L			09/17/24 03:44	1
Bromomethane	ND		0.50	0.13	ug/L			09/17/24 03:44	1
Chloroethane	ND		0.50	0.24	ug/L			09/17/24 03:44	1
Carbon disulfide	ND		0.40	0.20	ug/L			09/17/24 03:44	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/17/24 03:44	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			09/17/24 03:44	1
Acetone	ND		10	3.1	ug/L			09/17/24 03:44	1
Methylene Chloride	ND		5.0	1.2	ug/L			09/17/24 03:44	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			09/17/24 03:44	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/17/24 03:44	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/17/24 03:44	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			09/17/24 03:44	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/17/24 03:44	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			09/17/24 03:44	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/17/24 03:44	1
Chloroform	ND		0.20	0.030	ug/L			09/17/24 03:44	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			09/17/24 03:44	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/17/24 03:44	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/17/24 03:44	1
Benzene	ND		0.20	0.030	ug/L			09/17/24 03:44	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			09/17/24 03:44	1
Trichloroethene	ND		0.20	0.066	ug/L			09/17/24 03:44	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/17/24 03:44	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/17/24 03:44	1
Dibromomethane	ND		0.20	0.062	ug/L			09/17/24 03:44	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/17/24 03:44	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/17/24 03:44	1
Toluene	ND		0.20	0.050	ug/L			09/17/24 03:44	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/17/24 03:44	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/17/24 03:44	1
Tetrachloroethene	ND		0.24	0.084	ug/L			09/17/24 03:44	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/17/24 03:44	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/17/24 03:44	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/17/24 03:44	1
Chlorobenzene	ND		0.20	0.060	ug/L			09/17/24 03:44	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/17/24 03:44	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/17/24 03:44	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/17/24 03:44	1
o-Xylene	ND		0.50	0.23	ug/L			09/17/24 03:44	1
Styrene	ND		1.0	0.33	ug/L			09/17/24 03:44	1
Bromoform	ND		0.50	0.16	ug/L			09/17/24 03:44	1
Isopropylbenzene	ND	F1	1.0	0.27	ug/L			09/17/24 03:44	1
Bromobenzene	ND		0.20	0.038	ug/L			09/17/24 03:44	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/17/24 03:44	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/17/24 03:44	1
N-Propylbenzene	ND		0.30	0.091	ug/L			09/17/24 03:44	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/17/24 03:44	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: MWA-81i-091024

Lab Sample ID: 580-143753-14

Date Collected: 09/10/24 07:40

Matrix: Water

Date Received: 09/11/24 14:17

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			09/17/24 03:44	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/17/24 03:44	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/17/24 03:44	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/17/24 03:44	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/17/24 03:44	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/17/24 03:44	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/17/24 03:44	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/17/24 03:44	1
n-Butylbenzene	ND		1.0	0.35	ug/L			09/17/24 03:44	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			09/17/24 03:44	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/17/24 03:44	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/17/24 03:44	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/17/24 03:44	1
Naphthalene	ND		1.5	0.52	ug/L			09/17/24 03:44	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/17/24 03:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120		09/17/24 03:44	1
Dibromofluoromethane (Surr)	103		80 - 120		09/17/24 03:44	1
4-Bromofluorobenzene (Surr)	99		80 - 120		09/17/24 03:44	1
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		09/17/24 03:44	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			09/19/24 02:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	8.4	F1	1.5	0.43	mg/L			09/21/24 11:08	1

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-23d-091024

Lab Sample ID: 580-143753-15

Date Collected: 09/10/24 11:22

Matrix: Water

Date Received: 09/11/24 14:17

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			09/17/24 04:07	1
Chloromethane	ND		1.0	0.28	ug/L			09/17/24 04:07	1
Vinyl chloride	ND		1.0	0.22	ug/L			09/17/24 04:07	1
Bromomethane	ND		1.0	0.21	ug/L			09/17/24 04:07	1
Chloroethane	ND		1.0	0.35	ug/L			09/17/24 04:07	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			09/17/24 04:07	1
Carbon disulfide	ND		1.0	0.53	ug/L			09/17/24 04:07	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			09/17/24 04:07	1
Acetone	ND		15	3.2	ug/L			09/17/24 04:07	1
Methylene Chloride	ND		5.0	1.4	ug/L			09/17/24 04:07	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			09/17/24 04:07	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			09/17/24 04:07	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			09/17/24 04:07	1
2-Butanone (MEK)	ND		15	4.7	ug/L			09/17/24 04:07	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			09/17/24 04:07	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			09/17/24 04:07	1
Chlorobromomethane	ND		1.0	0.29	ug/L			09/17/24 04:07	1
Chloroform	ND		1.0	0.26	ug/L			09/17/24 04:07	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			09/17/24 04:07	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			09/17/24 04:07	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			09/17/24 04:07	1
Benzene	ND		1.0	0.24	ug/L			09/17/24 04:07	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			09/17/24 04:07	1
Trichloroethene	ND		1.0	0.26	ug/L			09/17/24 04:07	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			09/17/24 04:07	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/17/24 04:07	1
Dibromomethane	ND		1.0	0.34	ug/L			09/17/24 04:07	1
Bromodichloromethane	ND		1.0	0.29	ug/L			09/17/24 04:07	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			09/17/24 04:07	1
Toluene	ND		1.0	0.39	ug/L			09/17/24 04:07	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			09/17/24 04:07	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			09/17/24 04:07	1
Tetrachloroethene	ND		1.0	0.41	ug/L			09/17/24 04:07	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			09/17/24 04:07	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			09/17/24 04:07	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			09/17/24 04:07	1
Chlorobenzene	ND		1.0	0.44	ug/L			09/17/24 04:07	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			09/17/24 04:07	1
Ethylbenzene	ND		1.0	0.50	ug/L			09/17/24 04:07	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			09/17/24 04:07	1
o-Xylene	ND		1.0	0.39	ug/L			09/17/24 04:07	1
Styrene	ND		1.0	0.53	ug/L			09/17/24 04:07	1
Bromoform	ND		1.0	0.51	ug/L			09/17/24 04:07	1
Isopropylbenzene	ND		1.0	0.44	ug/L			09/17/24 04:07	1
Bromobenzene	ND		1.0	0.43	ug/L			09/17/24 04:07	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			09/17/24 04:07	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			09/17/24 04:07	1
N-Propylbenzene	ND		1.0	0.50	ug/L			09/17/24 04:07	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			09/17/24 04:07	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-23d-091024

Lab Sample ID: 580-143753-15

Date Collected: 09/10/24 11:22

Matrix: Water

Date Received: 09/11/24 14:17

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			09/17/24 04:07	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			09/17/24 04:07	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			09/17/24 04:07	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			09/17/24 04:07	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			09/17/24 04:07	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			09/17/24 04:07	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			09/17/24 04:07	1
n-Butylbenzene	ND		1.0	0.44	ug/L			09/17/24 04:07	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			09/17/24 04:07	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			09/17/24 04:07	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			09/17/24 04:07	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			09/17/24 04:07	1
Naphthalene	ND		3.0	0.93	ug/L			09/17/24 04:07	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			09/17/24 04:07	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			09/17/24 04:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		80 - 120		09/17/24 04:07	1
1,2-Dichloroethane-d4 (Surr)	114		80 - 120		09/17/24 04:07	1
4-Bromofluorobenzene (Surr)	101		80 - 120		09/17/24 04:07	1
Dibromofluoromethane (Surr)	108		80 - 120		09/17/24 04:07	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		40	18	ug/L			09/19/24 03:12	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	33000		1500	430	mg/L			09/21/24 12:55	1000

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-24d-091024

Lab Sample ID: 580-143753-16

Date Collected: 09/10/24 12:14

Matrix: Water

Date Received: 09/11/24 14:17

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			09/17/24 04:30	1
Chloromethane	ND		1.0	0.28	ug/L			09/17/24 04:30	1
Vinyl chloride	ND		1.0	0.22	ug/L			09/17/24 04:30	1
Bromomethane	ND		1.0	0.21	ug/L			09/17/24 04:30	1
Chloroethane	ND		1.0	0.35	ug/L			09/17/24 04:30	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			09/17/24 04:30	1
Carbon disulfide	ND		1.0	0.53	ug/L			09/17/24 04:30	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			09/17/24 04:30	1
Acetone	ND		15	3.2	ug/L			09/17/24 04:30	1
Methylene Chloride	ND		5.0	1.4	ug/L			09/17/24 04:30	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			09/17/24 04:30	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			09/17/24 04:30	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			09/17/24 04:30	1
2-Butanone (MEK)	ND		15	4.7	ug/L			09/17/24 04:30	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			09/17/24 04:30	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			09/17/24 04:30	1
Chlorobromomethane	ND		1.0	0.29	ug/L			09/17/24 04:30	1
Chloroform	ND		1.0	0.26	ug/L			09/17/24 04:30	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			09/17/24 04:30	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			09/17/24 04:30	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			09/17/24 04:30	1
Benzene	ND		1.0	0.24	ug/L			09/17/24 04:30	1
1,2-Dichloroethane	0.77	J	1.0	0.42	ug/L			09/17/24 04:30	1
Trichloroethene	ND		1.0	0.26	ug/L			09/17/24 04:30	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			09/17/24 04:30	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/17/24 04:30	1
Dibromomethane	ND		1.0	0.34	ug/L			09/17/24 04:30	1
Bromodichloromethane	ND		1.0	0.29	ug/L			09/17/24 04:30	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			09/17/24 04:30	1
Toluene	ND		1.0	0.39	ug/L			09/17/24 04:30	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			09/17/24 04:30	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			09/17/24 04:30	1
Tetrachloroethene	ND		1.0	0.41	ug/L			09/17/24 04:30	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			09/17/24 04:30	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			09/17/24 04:30	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			09/17/24 04:30	1
Chlorobenzene	ND		1.0	0.44	ug/L			09/17/24 04:30	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			09/17/24 04:30	1
Ethylbenzene	ND		1.0	0.50	ug/L			09/17/24 04:30	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			09/17/24 04:30	1
o-Xylene	ND		1.0	0.39	ug/L			09/17/24 04:30	1
Styrene	ND		1.0	0.53	ug/L			09/17/24 04:30	1
Bromoform	ND		1.0	0.51	ug/L			09/17/24 04:30	1
Isopropylbenzene	ND		1.0	0.44	ug/L			09/17/24 04:30	1
Bromobenzene	ND		1.0	0.43	ug/L			09/17/24 04:30	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			09/17/24 04:30	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			09/17/24 04:30	1
N-Propylbenzene	ND		1.0	0.50	ug/L			09/17/24 04:30	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			09/17/24 04:30	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-24d-091024

Lab Sample ID: 580-143753-16

Date Collected: 09/10/24 12:14

Matrix: Water

Date Received: 09/11/24 14:17

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			09/17/24 04:30	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			09/17/24 04:30	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			09/17/24 04:30	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			09/17/24 04:30	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			09/17/24 04:30	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			09/17/24 04:30	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			09/17/24 04:30	1
n-Butylbenzene	ND		1.0	0.44	ug/L			09/17/24 04:30	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			09/17/24 04:30	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			09/17/24 04:30	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			09/17/24 04:30	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			09/17/24 04:30	1
Naphthalene	ND		3.0	0.93	ug/L			09/17/24 04:30	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			09/17/24 04:30	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			09/17/24 04:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 120		09/17/24 04:30	1
1,2-Dichloroethane-d4 (Surr)	110		80 - 120		09/17/24 04:30	1
4-Bromofluorobenzene (Surr)	100		80 - 120		09/17/24 04:30	1
Dibromofluoromethane (Surr)	108		80 - 120		09/17/24 04:30	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		40	18	ug/L			09/19/24 03:31	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	30000		1500	430	mg/L			09/22/24 01:55	1000

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-04-091024

Lab Sample ID: 580-143753-17

Date Collected: 09/10/24 06:51

Matrix: Water

Date Received: 09/11/24 14:17

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			09/17/24 04:53	1
Chloromethane	0.20	J	0.50	0.14	ug/L			09/17/24 04:53	1
Vinyl chloride	ND		0.10	0.040	ug/L			09/17/24 04:53	1
Bromomethane	ND		0.50	0.13	ug/L			09/17/24 04:53	1
Chloroethane	ND		0.50	0.24	ug/L			09/17/24 04:53	1
Carbon disulfide	ND		0.40	0.20	ug/L			09/17/24 04:53	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/17/24 04:53	1
1,1-Dichloroethene	0.25		0.20	0.035	ug/L			09/17/24 04:53	1
Acetone	ND		10	3.1	ug/L			09/17/24 04:53	1
Methylene Chloride	ND		5.0	1.2	ug/L			09/17/24 04:53	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			09/17/24 04:53	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/17/24 04:53	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/17/24 04:53	1
1,1-Dichloroethane	0.29		0.20	0.064	ug/L			09/17/24 04:53	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/17/24 04:53	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			09/17/24 04:53	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/17/24 04:53	1
Chloroform	0.033	J	0.20	0.030	ug/L			09/17/24 04:53	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			09/17/24 04:53	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/17/24 04:53	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/17/24 04:53	1
Benzene	ND		0.20	0.030	ug/L			09/17/24 04:53	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			09/17/24 04:53	1
Trichloroethene	ND		0.20	0.066	ug/L			09/17/24 04:53	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/17/24 04:53	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/17/24 04:53	1
Dibromomethane	ND		0.20	0.062	ug/L			09/17/24 04:53	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/17/24 04:53	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/17/24 04:53	1
Toluene	ND		0.20	0.050	ug/L			09/17/24 04:53	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/17/24 04:53	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/17/24 04:53	1
Tetrachloroethene	0.14	J	0.24	0.084	ug/L			09/17/24 04:53	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/17/24 04:53	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/17/24 04:53	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/17/24 04:53	1
Chlorobenzene	ND		0.20	0.060	ug/L			09/17/24 04:53	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/17/24 04:53	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/17/24 04:53	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/17/24 04:53	1
o-Xylene	ND		0.50	0.23	ug/L			09/17/24 04:53	1
Styrene	ND		1.0	0.33	ug/L			09/17/24 04:53	1
Bromoform	ND		0.50	0.16	ug/L			09/17/24 04:53	1
Isopropylbenzene	ND		1.0	0.27	ug/L			09/17/24 04:53	1
Bromobenzene	ND		0.20	0.038	ug/L			09/17/24 04:53	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/17/24 04:53	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/17/24 04:53	1
N-Propylbenzene	ND		0.30	0.091	ug/L			09/17/24 04:53	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/17/24 04:53	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-04-091024

Lab Sample ID: 580-143753-17

Date Collected: 09/10/24 06:51

Matrix: Water

Date Received: 09/11/24 14:17

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			09/17/24 04:53	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/17/24 04:53	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/17/24 04:53	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/17/24 04:53	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/17/24 04:53	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/17/24 04:53	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/17/24 04:53	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/17/24 04:53	1
n-Butylbenzene	ND		1.0	0.35	ug/L			09/17/24 04:53	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			09/17/24 04:53	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/17/24 04:53	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/17/24 04:53	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/17/24 04:53	1
Naphthalene	ND		1.5	0.52	ug/L			09/17/24 04:53	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/17/24 04:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120		09/17/24 04:53	1
Dibromofluoromethane (Surr)	105		80 - 120		09/17/24 04:53	1
4-Bromofluorobenzene (Surr)	101		80 - 120		09/17/24 04:53	1
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		09/17/24 04:53	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		10	4.5	ug/L			09/19/24 03:51	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	4.9		1.5	0.43	mg/L			09/22/24 02:07	1

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: Dup-01-091024

Lab Sample ID: 580-143753-18

Date Collected: 09/10/24 07:56

Matrix: Water

Date Received: 09/11/24 14:17

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			09/17/24 05:16	1
Chloromethane	ND		0.50	0.14	ug/L			09/17/24 05:16	1
Vinyl chloride	0.50		0.10	0.040	ug/L			09/17/24 05:16	1
Bromomethane	ND		0.50	0.13	ug/L			09/17/24 05:16	1
Chloroethane	ND		0.50	0.24	ug/L			09/17/24 05:16	1
Carbon disulfide	ND		0.40	0.20	ug/L			09/17/24 05:16	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/17/24 05:16	1
1,1-Dichloroethene	0.11	J	0.20	0.035	ug/L			09/17/24 05:16	1
Acetone	ND		10	3.1	ug/L			09/17/24 05:16	1
Methylene Chloride	ND		5.0	1.2	ug/L			09/17/24 05:16	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			09/17/24 05:16	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/17/24 05:16	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/17/24 05:16	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			09/17/24 05:16	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/17/24 05:16	1
cis-1,2-Dichloroethene	0.14	J	0.20	0.055	ug/L			09/17/24 05:16	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/17/24 05:16	1
Chloroform	ND		0.20	0.030	ug/L			09/17/24 05:16	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			09/17/24 05:16	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/17/24 05:16	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/17/24 05:16	1
Benzene	ND		0.20	0.030	ug/L			09/17/24 05:16	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			09/17/24 05:16	1
Trichloroethene	ND		0.20	0.066	ug/L			09/17/24 05:16	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/17/24 05:16	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/17/24 05:16	1
Dibromomethane	ND		0.20	0.062	ug/L			09/17/24 05:16	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/17/24 05:16	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/17/24 05:16	1
Toluene	ND		0.20	0.050	ug/L			09/17/24 05:16	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/17/24 05:16	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/17/24 05:16	1
Tetrachloroethene	ND		0.24	0.084	ug/L			09/17/24 05:16	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/17/24 05:16	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/17/24 05:16	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/17/24 05:16	1
Chlorobenzene	ND		0.20	0.060	ug/L			09/17/24 05:16	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/17/24 05:16	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/17/24 05:16	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/17/24 05:16	1
o-Xylene	ND		0.50	0.23	ug/L			09/17/24 05:16	1
Styrene	ND		1.0	0.33	ug/L			09/17/24 05:16	1
Bromoform	ND		0.50	0.16	ug/L			09/17/24 05:16	1
Isopropylbenzene	ND		1.0	0.27	ug/L			09/17/24 05:16	1
Bromobenzene	ND		0.20	0.038	ug/L			09/17/24 05:16	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/17/24 05:16	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/17/24 05:16	1
N-Propylbenzene	ND		0.30	0.091	ug/L			09/17/24 05:16	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/17/24 05:16	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: Dup-01-091024

Lab Sample ID: 580-143753-18

Date Collected: 09/10/24 07:56

Matrix: Water

Date Received: 09/11/24 14:17

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			09/17/24 05:16	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/17/24 05:16	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/17/24 05:16	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/17/24 05:16	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/17/24 05:16	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/17/24 05:16	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/17/24 05:16	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/17/24 05:16	1
n-Butylbenzene	ND		1.0	0.35	ug/L			09/17/24 05:16	1
1,2-Dichlorobenzene	0.17	J	0.30	0.038	ug/L			09/17/24 05:16	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/17/24 05:16	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/17/24 05:16	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/17/24 05:16	1
Naphthalene	ND		1.5	0.52	ug/L			09/17/24 05:16	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/17/24 05:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 120		09/17/24 05:16	1
Dibromofluoromethane (Surr)	103		80 - 120		09/17/24 05:16	1
4-Bromofluorobenzene (Surr)	99		80 - 120		09/17/24 05:16	1
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		09/17/24 05:16	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	9.1	ug/L			09/19/24 04:11	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	31		1.5	0.43	mg/L			09/22/24 02:19	1

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-10i-091024

Lab Sample ID: 580-143753-19

Date Collected: 09/10/24 07:55

Matrix: Water

Date Received: 09/11/24 14:17

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			09/17/24 05:39	1
Chloromethane	ND		0.50	0.14	ug/L			09/17/24 05:39	1
Vinyl chloride	ND		0.10	0.040	ug/L			09/17/24 05:39	1
Bromomethane	ND		0.50	0.13	ug/L			09/17/24 05:39	1
Chloroethane	ND		0.50	0.24	ug/L			09/17/24 05:39	1
Carbon disulfide	ND		0.40	0.20	ug/L			09/17/24 05:39	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/17/24 05:39	1
1,1-Dichloroethene	0.11	J	0.20	0.035	ug/L			09/17/24 05:39	1
Acetone	ND		10	3.1	ug/L			09/17/24 05:39	1
Methylene Chloride	ND		5.0	1.2	ug/L			09/17/24 05:39	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			09/17/24 05:39	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/17/24 05:39	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/17/24 05:39	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			09/17/24 05:39	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/17/24 05:39	1
cis-1,2-Dichloroethene	0.17	J	0.20	0.055	ug/L			09/17/24 05:39	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/17/24 05:39	1
Chloroform	ND		0.20	0.030	ug/L			09/17/24 05:39	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			09/17/24 05:39	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/17/24 05:39	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/17/24 05:39	1
Benzene	ND		0.20	0.030	ug/L			09/17/24 05:39	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			09/17/24 05:39	1
Trichloroethene	ND		0.20	0.066	ug/L			09/17/24 05:39	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/17/24 05:39	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/17/24 05:39	1
Dibromomethane	ND		0.20	0.062	ug/L			09/17/24 05:39	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/17/24 05:39	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/17/24 05:39	1
Toluene	ND		0.20	0.050	ug/L			09/17/24 05:39	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/17/24 05:39	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/17/24 05:39	1
Tetrachloroethene	ND		0.24	0.084	ug/L			09/17/24 05:39	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/17/24 05:39	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/17/24 05:39	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/17/24 05:39	1
Chlorobenzene	ND		0.20	0.060	ug/L			09/17/24 05:39	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/17/24 05:39	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/17/24 05:39	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/17/24 05:39	1
o-Xylene	ND		0.50	0.23	ug/L			09/17/24 05:39	1
Styrene	ND		1.0	0.33	ug/L			09/17/24 05:39	1
Bromoform	ND		0.50	0.16	ug/L			09/17/24 05:39	1
Isopropylbenzene	ND		1.0	0.27	ug/L			09/17/24 05:39	1
Bromobenzene	ND		0.20	0.038	ug/L			09/17/24 05:39	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/17/24 05:39	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/17/24 05:39	1
N-Propylbenzene	ND		0.30	0.091	ug/L			09/17/24 05:39	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/17/24 05:39	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-10i-091024

Lab Sample ID: 580-143753-19

Date Collected: 09/10/24 07:55

Matrix: Water

Date Received: 09/11/24 14:17

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			09/17/24 05:39	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/17/24 05:39	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/17/24 05:39	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/17/24 05:39	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/17/24 05:39	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/17/24 05:39	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/17/24 05:39	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/17/24 05:39	1
n-Butylbenzene	ND		1.0	0.35	ug/L			09/17/24 05:39	1
1,2-Dichlorobenzene	0.14	J	0.30	0.038	ug/L			09/17/24 05:39	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/17/24 05:39	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/17/24 05:39	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/17/24 05:39	1
Naphthalene	ND		1.5	0.52	ug/L			09/17/24 05:39	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/17/24 05:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 120		09/17/24 05:39	1
Dibromofluoromethane (Surr)	105		80 - 120		09/17/24 05:39	1
4-Bromofluorobenzene (Surr)	100		80 - 120		09/17/24 05:39	1
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		09/17/24 05:39	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		20	9.1	ug/L			09/19/24 04:31	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	30		1.5	0.43	mg/L			09/22/24 03:07	1

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: MWA-63-091024

Lab Sample ID: 580-143753-20

Date Collected: 09/10/24 09:16

Matrix: Water

Date Received: 09/11/24 14:17

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			09/17/24 06:25	1
Chloromethane	ND		1.0	0.28	ug/L			09/17/24 06:25	1
Vinyl chloride	ND		1.0	0.22	ug/L			09/17/24 06:25	1
Bromomethane	ND		1.0	0.21	ug/L			09/17/24 06:25	1
Chloroethane	ND		1.0	0.35	ug/L			09/17/24 06:25	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			09/17/24 06:25	1
Carbon disulfide	ND		1.0	0.53	ug/L			09/17/24 06:25	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			09/17/24 06:25	1
Acetone	ND		15	3.2	ug/L			09/17/24 06:25	1
Methylene Chloride	ND		5.0	1.4	ug/L			09/17/24 06:25	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			09/17/24 06:25	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			09/17/24 06:25	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			09/17/24 06:25	1
2-Butanone (MEK)	ND		15	4.7	ug/L			09/17/24 06:25	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			09/17/24 06:25	1
cis-1,2-Dichloroethene	3.6		1.0	0.35	ug/L			09/17/24 06:25	1
Chlorobromomethane	ND		1.0	0.29	ug/L			09/17/24 06:25	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			09/17/24 06:25	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			09/17/24 06:25	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			09/17/24 06:25	1
Benzene	ND		1.0	0.24	ug/L			09/17/24 06:25	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			09/17/24 06:25	1
Trichloroethene	2.6		1.0	0.26	ug/L			09/17/24 06:25	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			09/17/24 06:25	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/17/24 06:25	1
Dibromomethane	ND		1.0	0.34	ug/L			09/17/24 06:25	1
Bromodichloromethane	ND		1.0	0.29	ug/L			09/17/24 06:25	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			09/17/24 06:25	1
Toluene	ND		1.0	0.39	ug/L			09/17/24 06:25	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			09/17/24 06:25	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			09/17/24 06:25	1
Tetrachloroethene	9.9		1.0	0.41	ug/L			09/17/24 06:25	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			09/17/24 06:25	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			09/17/24 06:25	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			09/17/24 06:25	1
Chlorobenzene	ND		1.0	0.44	ug/L			09/17/24 06:25	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			09/17/24 06:25	1
Ethylbenzene	ND		1.0	0.50	ug/L			09/17/24 06:25	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			09/17/24 06:25	1
o-Xylene	ND		1.0	0.39	ug/L			09/17/24 06:25	1
Styrene	ND		1.0	0.53	ug/L			09/17/24 06:25	1
Bromoform	ND		1.0	0.51	ug/L			09/17/24 06:25	1
Isopropylbenzene	ND		1.0	0.44	ug/L			09/17/24 06:25	1
Bromobenzene	ND		1.0	0.43	ug/L			09/17/24 06:25	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			09/17/24 06:25	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			09/17/24 06:25	1
N-Propylbenzene	ND		1.0	0.50	ug/L			09/17/24 06:25	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			09/17/24 06:25	1
4-Chlorotoluene	ND		1.0	0.38	ug/L			09/17/24 06:25	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: MWA-63-091024

Lab Sample ID: 580-143753-20

Date Collected: 09/10/24 09:16

Matrix: Water

Date Received: 09/11/24 14:17

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			09/17/24 06:25	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			09/17/24 06:25	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			09/17/24 06:25	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			09/17/24 06:25	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			09/17/24 06:25	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			09/17/24 06:25	1
n-Butylbenzene	ND		1.0	0.44	ug/L			09/17/24 06:25	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			09/17/24 06:25	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			09/17/24 06:25	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			09/17/24 06:25	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			09/17/24 06:25	1
Naphthalene	ND		3.0	0.93	ug/L			09/17/24 06:25	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			09/17/24 06:25	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			09/17/24 06:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120		09/17/24 06:25	1
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		09/17/24 06:25	1
4-Bromofluorobenzene (Surr)	100		80 - 120		09/17/24 06:25	1
Dibromofluoromethane (Surr)	106		80 - 120		09/17/24 06:25	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	100		10	2.6	ug/L			09/18/24 03:44	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120		09/18/24 03:44	10
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		09/18/24 03:44	10
4-Bromofluorobenzene (Surr)	96		80 - 120		09/18/24 03:44	10
Dibromofluoromethane (Surr)	101		80 - 120		09/18/24 03:44	10

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			09/19/24 04:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	23		1.5	0.43	mg/L			09/22/24 03:19	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-44i-091024

Lab Sample ID: 580-143753-21

Date Collected: 09/10/24 11:22

Matrix: Water

Date Received: 09/11/24 14:17

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			09/17/24 06:02	1
Chloromethane	ND		0.50	0.14	ug/L			09/17/24 06:02	1
Vinyl chloride	ND		0.10	0.040	ug/L			09/17/24 06:02	1
Bromomethane	ND		0.50	0.13	ug/L			09/17/24 06:02	1
Chloroethane	ND		0.50	0.24	ug/L			09/17/24 06:02	1
Carbon disulfide	ND		0.40	0.20	ug/L			09/17/24 06:02	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/17/24 06:02	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			09/17/24 06:02	1
Acetone	ND		10	3.1	ug/L			09/17/24 06:02	1
Methylene Chloride	ND		5.0	1.2	ug/L			09/17/24 06:02	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			09/17/24 06:02	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/17/24 06:02	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/17/24 06:02	1
1,1-Dichloroethane	0.26		0.20	0.064	ug/L			09/17/24 06:02	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/17/24 06:02	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			09/17/24 06:02	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/17/24 06:02	1
Chloroform	ND		0.20	0.030	ug/L			09/17/24 06:02	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			09/17/24 06:02	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/17/24 06:02	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/17/24 06:02	1
Benzene	ND		0.20	0.030	ug/L			09/17/24 06:02	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			09/17/24 06:02	1
Trichloroethene	ND		0.20	0.066	ug/L			09/17/24 06:02	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/17/24 06:02	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/17/24 06:02	1
Dibromomethane	ND		0.20	0.062	ug/L			09/17/24 06:02	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/17/24 06:02	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/17/24 06:02	1
Toluene	ND		0.20	0.050	ug/L			09/17/24 06:02	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/17/24 06:02	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/17/24 06:02	1
Tetrachloroethene	ND		0.24	0.084	ug/L			09/17/24 06:02	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/17/24 06:02	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/17/24 06:02	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/17/24 06:02	1
Chlorobenzene	ND		0.20	0.060	ug/L			09/17/24 06:02	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/17/24 06:02	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/17/24 06:02	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/17/24 06:02	1
o-Xylene	ND		0.50	0.23	ug/L			09/17/24 06:02	1
Styrene	ND		1.0	0.33	ug/L			09/17/24 06:02	1
Bromoform	ND		0.50	0.16	ug/L			09/17/24 06:02	1
Isopropylbenzene	ND		1.0	0.27	ug/L			09/17/24 06:02	1
Bromobenzene	ND		0.20	0.038	ug/L			09/17/24 06:02	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/17/24 06:02	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/17/24 06:02	1
N-Propylbenzene	ND		0.30	0.091	ug/L			09/17/24 06:02	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/17/24 06:02	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-44i-091024

Lab Sample ID: 580-143753-21

Date Collected: 09/10/24 11:22

Matrix: Water

Date Received: 09/11/24 14:17

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			09/17/24 06:02	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/17/24 06:02	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/17/24 06:02	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/17/24 06:02	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/17/24 06:02	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/17/24 06:02	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/17/24 06:02	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/17/24 06:02	1
n-Butylbenzene	ND		1.0	0.35	ug/L			09/17/24 06:02	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			09/17/24 06:02	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/17/24 06:02	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/17/24 06:02	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/17/24 06:02	1
Naphthalene	ND		1.5	0.52	ug/L			09/17/24 06:02	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/17/24 06:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		80 - 120		09/17/24 06:02	1
Dibromofluoromethane (Surr)	103		80 - 120		09/17/24 06:02	1
4-Bromofluorobenzene (Surr)	100		80 - 120		09/17/24 06:02	1
1,2-Dichloroethane-d4 (Surr)	101		80 - 120		09/17/24 06:02	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		10	4.5	ug/L			09/19/24 05:11	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	220		15	4.3	mg/L			09/22/24 03:42	10

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: MWA-31i(d)-091024

Lab Sample ID: 580-143753-22

Date Collected: 09/10/24 12:53

Matrix: Water

Date Received: 09/11/24 14:17

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			09/17/24 06:49	1
Chloromethane	ND		1.0	0.28	ug/L			09/17/24 06:49	1
Vinyl chloride	ND		1.0	0.22	ug/L			09/17/24 06:49	1
Bromomethane	ND		1.0	0.21	ug/L			09/17/24 06:49	1
Chloroethane	ND		1.0	0.35	ug/L			09/17/24 06:49	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			09/17/24 06:49	1
Carbon disulfide	ND		1.0	0.53	ug/L			09/17/24 06:49	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			09/17/24 06:49	1
Acetone	ND		15	3.2	ug/L			09/17/24 06:49	1
Methylene Chloride	1.9	J	5.0	1.4	ug/L			09/17/24 06:49	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			09/17/24 06:49	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			09/17/24 06:49	1
1,1-Dichloroethane	0.43	J	1.0	0.22	ug/L			09/17/24 06:49	1
2-Butanone (MEK)	ND		15	4.7	ug/L			09/17/24 06:49	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			09/17/24 06:49	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			09/17/24 06:49	1
Chlorobromomethane	ND		1.0	0.29	ug/L			09/17/24 06:49	1
Chloroform	63		1.0	0.26	ug/L			09/17/24 06:49	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			09/17/24 06:49	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			09/17/24 06:49	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			09/17/24 06:49	1
Benzene	ND		1.0	0.24	ug/L			09/17/24 06:49	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			09/17/24 06:49	1
Trichloroethene	ND		1.0	0.26	ug/L			09/17/24 06:49	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			09/17/24 06:49	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/17/24 06:49	1
Dibromomethane	ND		1.0	0.34	ug/L			09/17/24 06:49	1
Bromodichloromethane	ND		1.0	0.29	ug/L			09/17/24 06:49	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			09/17/24 06:49	1
Toluene	ND		1.0	0.39	ug/L			09/17/24 06:49	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			09/17/24 06:49	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			09/17/24 06:49	1
Tetrachloroethene	0.42	J	1.0	0.41	ug/L			09/17/24 06:49	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			09/17/24 06:49	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			09/17/24 06:49	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			09/17/24 06:49	1
Chlorobenzene	ND		1.0	0.44	ug/L			09/17/24 06:49	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			09/17/24 06:49	1
Ethylbenzene	ND		1.0	0.50	ug/L			09/17/24 06:49	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			09/17/24 06:49	1
o-Xylene	ND		1.0	0.39	ug/L			09/17/24 06:49	1
Styrene	ND		1.0	0.53	ug/L			09/17/24 06:49	1
Bromoform	ND		1.0	0.51	ug/L			09/17/24 06:49	1
Isopropylbenzene	ND		1.0	0.44	ug/L			09/17/24 06:49	1
Bromobenzene	ND		1.0	0.43	ug/L			09/17/24 06:49	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			09/17/24 06:49	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			09/17/24 06:49	1
N-Propylbenzene	ND		1.0	0.50	ug/L			09/17/24 06:49	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			09/17/24 06:49	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: MWA-31i(d)-091024

Lab Sample ID: 580-143753-22

Date Collected: 09/10/24 12:53

Matrix: Water

Date Received: 09/11/24 14:17

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			09/17/24 06:49	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			09/17/24 06:49	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			09/17/24 06:49	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			09/17/24 06:49	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			09/17/24 06:49	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			09/17/24 06:49	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			09/17/24 06:49	1
n-Butylbenzene	ND		1.0	0.44	ug/L			09/17/24 06:49	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			09/17/24 06:49	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			09/17/24 06:49	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			09/17/24 06:49	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			09/17/24 06:49	1
Naphthalene	ND		3.0	0.93	ug/L			09/17/24 06:49	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			09/17/24 06:49	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			09/17/24 06:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 120		09/17/24 06:49	1
1,2-Dichloroethane-d4 (Surr)	110		80 - 120		09/17/24 06:49	1
4-Bromofluorobenzene (Surr)	100		80 - 120		09/17/24 06:49	1
Dibromofluoromethane (Surr)	107		80 - 120		09/17/24 06:49	1

Method: EPA 314.0 - Perchlorate (IC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	87000		8000	3600	ug/L			09/20/24 07:03	4000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	16000		1500	430	mg/L			09/22/24 04:06	1000

QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

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

Lab Sample ID: MB 580-471506/7

Matrix: Water

Analysis Batch: 471506

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			09/15/24 09:02	1
Chloromethane	ND		0.50	0.14	ug/L			09/15/24 09:02	1
Vinyl chloride	ND		0.10	0.040	ug/L			09/15/24 09:02	1
Bromomethane	ND		0.50	0.13	ug/L			09/15/24 09:02	1
Chloroethane	ND		0.50	0.24	ug/L			09/15/24 09:02	1
Carbon disulfide	ND		0.40	0.20	ug/L			09/15/24 09:02	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/15/24 09:02	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			09/15/24 09:02	1
Acetone	ND		10	3.1	ug/L			09/15/24 09:02	1
Methylene Chloride	ND		5.0	1.2	ug/L			09/15/24 09:02	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			09/15/24 09:02	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/15/24 09:02	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/15/24 09:02	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			09/15/24 09:02	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/15/24 09:02	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			09/15/24 09:02	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/15/24 09:02	1
Chloroform	ND		0.20	0.030	ug/L			09/15/24 09:02	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			09/15/24 09:02	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/15/24 09:02	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/15/24 09:02	1
Benzene	ND		0.20	0.030	ug/L			09/15/24 09:02	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			09/15/24 09:02	1
Trichloroethene	ND		0.20	0.066	ug/L			09/15/24 09:02	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/15/24 09:02	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/15/24 09:02	1
Dibromomethane	ND		0.20	0.062	ug/L			09/15/24 09:02	1
Bromodichloromethane	ND		0.20	0.060	ug/L			09/15/24 09:02	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/15/24 09:02	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/15/24 09:02	1
Toluene	ND		0.20	0.050	ug/L			09/15/24 09:02	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/15/24 09:02	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/15/24 09:02	1
Tetrachloroethene	ND		0.24	0.084	ug/L			09/15/24 09:02	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/15/24 09:02	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/15/24 09:02	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/15/24 09:02	1
Chlorobenzene	ND		0.20	0.060	ug/L			09/15/24 09:02	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/15/24 09:02	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/15/24 09:02	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/15/24 09:02	1
o-Xylene	ND		0.50	0.23	ug/L			09/15/24 09:02	1
Styrene	ND		1.0	0.33	ug/L			09/15/24 09:02	1
Bromoform	ND		0.50	0.16	ug/L			09/15/24 09:02	1
Isopropylbenzene	ND		1.0	0.27	ug/L			09/15/24 09:02	1
Bromobenzene	ND		0.20	0.038	ug/L			09/15/24 09:02	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/15/24 09:02	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/15/24 09:02	1

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

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

Lab Sample ID: MB 580-471506/7

Matrix: Water

Analysis Batch: 471506

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		0.30	0.091	ug/L			09/15/24 09:02	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/15/24 09:02	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			09/15/24 09:02	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/15/24 09:02	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/15/24 09:02	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/15/24 09:02	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/15/24 09:02	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/15/24 09:02	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/15/24 09:02	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/15/24 09:02	1
n-Butylbenzene	ND		1.0	0.35	ug/L			09/15/24 09:02	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			09/15/24 09:02	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/15/24 09:02	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/15/24 09:02	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/15/24 09:02	1
Naphthalene	ND		1.5	0.52	ug/L			09/15/24 09:02	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/15/24 09:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 120		09/15/24 09:02	1
Dibromofluoromethane (Surr)	104		80 - 120		09/15/24 09:02	1
4-Bromofluorobenzene (Surr)	101		80 - 120		09/15/24 09:02	1
1,2-Dichloroethane-d4 (Surr)	97		80 - 120		09/15/24 09:02	1

Lab Sample ID: LCS 580-471506/4

Matrix: Water

Analysis Batch: 471506

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	5.94		ug/L		119	20 - 150
Chloromethane	5.00	5.68		ug/L		114	32 - 150
Vinyl chloride	5.00	6.17		ug/L		123	41 - 150
Bromomethane	5.00	5.93		ug/L		119	51 - 148
Chloroethane	5.00	5.43		ug/L		109	54 - 140
Carbon disulfide	5.00	4.37		ug/L		87	54 - 142
Trichlorofluoromethane	5.00	4.97		ug/L		99	60 - 132
1,1-Dichloroethene	5.00	4.49		ug/L		90	60 - 129
Acetone	25.0	22.1		ug/L		88	49 - 150
Methylene Chloride	5.00	5.31		ug/L		106	40 - 142
Methyl tert-butyl ether	5.00	4.90		ug/L		98	61 - 131
2-Butanone (MEK)	25.0	19.8		ug/L		79	37 - 150
trans-1,2-Dichloroethene	5.00	4.67		ug/L		93	69 - 121
1,1-Dichloroethane	5.00	4.84		ug/L		97	74 - 120
2,2-Dichloropropane	5.00	4.17		ug/L		83	55 - 140
cis-1,2-Dichloroethene	5.00	4.85		ug/L		97	72 - 120
Chlorobromomethane	5.00	5.23		ug/L		105	79 - 121
Chloroform	5.00	4.84		ug/L		97	75 - 120
1,1,1-Trichloroethane	5.00	4.82		ug/L		96	70 - 121

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

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

Lab Sample ID: LCS 580-471506/4

Matrix: Water

Analysis Batch: 471506

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon tetrachloride	5.00	4.41		ug/L		88	66 - 130
1,1-Dichloropropene	5.00	4.47		ug/L		89	72 - 125
Benzene	5.00	4.66		ug/L		93	80 - 120
1,2-Dichloroethane	5.00	4.45		ug/L		89	74 - 127
Trichloroethene	5.00	4.55		ug/L		91	72 - 120
1,2-Dichloropropane	5.00	4.71		ug/L		94	69 - 130
4-Methyl-2-pentanone (MIBK)	25.0	22.8		ug/L		91	63 - 137
Dibromomethane	5.00	5.07		ug/L		101	65 - 141
Bromodichloromethane	5.00	4.85		ug/L		97	74 - 131
Dichlorobromomethane	5.00	4.85		ug/L		97	74 - 131
cis-1,3-Dichloropropene	5.00	4.55		ug/L		91	77 - 131
Toluene	5.00	4.56		ug/L		91	80 - 126
trans-1,3-Dichloropropene	5.00	4.74		ug/L		95	71 - 138
1,1,2-Trichloroethane	5.00	4.29		ug/L		86	73 - 127
Tetrachloroethene	5.00	4.68		ug/L		94	75 - 124
1,3-Dichloropropane	5.00	4.72		ug/L		94	69 - 138
Chlorodibromomethane	5.00	4.59		ug/L		92	62 - 141
Ethylene Dibromide	5.00	4.43		ug/L		89	61 - 143
Chlorobenzene	5.00	4.70		ug/L		94	74 - 123
1,1,1,2-Tetrachloroethane	5.00	4.14		ug/L		83	69 - 127
Ethylbenzene	5.00	4.72		ug/L		94	80 - 124
m-Xylene & p-Xylene	5.00	4.84		ug/L		97	75 - 124
o-Xylene	5.00	4.82		ug/L		96	71 - 124
Styrene	5.00	4.53		ug/L		91	74 - 127
Bromoform	5.00	4.65		ug/L		93	48 - 127
Isopropylbenzene	5.00	5.49		ug/L		110	71 - 123
Bromobenzene	5.00	4.73		ug/L		95	74 - 130
1,1,2,2-Tetrachloroethane	5.00	4.57		ug/L		91	67 - 136
1,2,3-Trichloropropane	5.00	4.55		ug/L		91	67 - 135
N-Propylbenzene	5.00	4.79		ug/L		96	72 - 126
2-Chlorotoluene	5.00	4.72		ug/L		94	73 - 120
4-Chlorotoluene	5.00	4.86		ug/L		97	75 - 124
1,3,5-Trimethylbenzene	5.00	4.40		ug/L		88	75 - 123
tert-Butylbenzene	5.00	4.71		ug/L		94	70 - 129
1,2,4-Trimethylbenzene	5.00	4.34		ug/L		87	71 - 127
sec-Butylbenzene	5.00	4.59		ug/L		92	75 - 126
4-Isopropyltoluene	5.00	4.43		ug/L		89	78 - 125
1,3-Dichlorobenzene	5.00	4.85		ug/L		97	72 - 125
1,4-Dichlorobenzene	5.00	4.59		ug/L		92	71 - 129
n-Butylbenzene	5.00	4.31		ug/L		86	69 - 127
1,2-Dichlorobenzene	5.00	4.87		ug/L		97	72 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.46		ug/L		89	55 - 135
1,2,4-Trichlorobenzene	5.00	4.90		ug/L		98	60 - 130
Hexachlorobutadiene	5.00	4.69		ug/L		94	63 - 130
Naphthalene	5.00	4.56		ug/L		91	54 - 137
1,2,3-Trichlorobenzene	5.00	4.90		ug/L		98	60 - 136

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

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

Lab Sample ID: LCS 580-471506/4

Matrix: Water

Analysis Batch: 471506

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	101		80 - 120
4-Bromofluorobenzene (Surr)	102		80 - 120
1,2-Dichloroethane-d4 (Surr)	97		80 - 120

Lab Sample ID: LCSD 580-471506/5

Matrix: Water

Analysis Batch: 471506

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	5.57		ug/L		111	20 - 150	6	30
Chloromethane	5.00	5.44		ug/L		109	32 - 150	4	33
Vinyl chloride	5.00	5.88		ug/L		118	41 - 150	5	32
Bromomethane	5.00	5.62		ug/L		112	51 - 148	5	35
Chloroethane	5.00	4.67		ug/L		93	54 - 140	15	33
Carbon disulfide	5.00	4.03		ug/L		81	54 - 142	8	34
Trichlorofluoromethane	5.00	4.75		ug/L		95	60 - 132	4	32
1,1-Dichloroethene	5.00	4.17		ug/L		83	60 - 129	7	29
Acetone	25.0	20.3		ug/L		81	49 - 150	9	24
Methylene Chloride	5.00	4.95	J	ug/L		99	40 - 142	7	25
Methyl tert-butyl ether	5.00	5.05		ug/L		101	61 - 131	3	27
2-Butanone (MEK)	25.0	20.4		ug/L		82	37 - 150	3	35
trans-1,2-Dichloroethene	5.00	4.52		ug/L		90	69 - 121	3	27
1,1-Dichloroethane	5.00	4.60		ug/L		92	74 - 120	5	26
2,2-Dichloropropane	5.00	4.19		ug/L		84	55 - 140	0	31
cis-1,2-Dichloroethene	5.00	4.60		ug/L		92	72 - 120	5	22
Chlorobromomethane	5.00	4.85		ug/L		97	79 - 121	8	20
Chloroform	5.00	4.61		ug/L		92	75 - 120	5	21
1,1,1-Trichloroethane	5.00	4.90		ug/L		98	70 - 121	2	24
Carbon tetrachloride	5.00	4.42		ug/L		88	66 - 130	0	24
1,1-Dichloropropene	5.00	4.43		ug/L		89	72 - 125	1	23
Benzene	5.00	4.63		ug/L		93	80 - 120	1	22
1,2-Dichloroethane	5.00	4.33		ug/L		87	74 - 127	3	21
Trichloroethene	5.00	4.46		ug/L		89	72 - 120	2	22
1,2-Dichloropropane	5.00	4.68		ug/L		94	69 - 130	1	22
4-Methyl-2-pentanone (MIBK)	25.0	23.3		ug/L		93	63 - 137	2	26
Dibromomethane	5.00	4.96		ug/L		99	65 - 141	2	22
Bromodichloromethane	5.00	4.86		ug/L		97	74 - 131	0	21
Dichlorobromomethane	5.00	4.86		ug/L		97	74 - 131	0	21
cis-1,3-Dichloropropene	5.00	4.70		ug/L		94	77 - 131	3	24
Toluene	5.00	4.57		ug/L		91	80 - 126	0	20
trans-1,3-Dichloropropene	5.00	4.85		ug/L		97	71 - 138	2	26
1,1,2-Trichloroethane	5.00	4.40		ug/L		88	73 - 127	2	22
Tetrachloroethene	5.00	4.63		ug/L		93	75 - 124	1	20
1,3-Dichloropropane	5.00	5.05		ug/L		101	69 - 138	7	19
Chlorodibromomethane	5.00	4.89		ug/L		98	62 - 141	6	22
Ethylene Dibromide	5.00	4.45		ug/L		89	61 - 143	0	22
Chlorobenzene	5.00	4.57		ug/L		91	74 - 123	3	21

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

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

Lab Sample ID: LCSD 580-471506/5

Matrix: Water

Analysis Batch: 471506

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	5.00	4.50		ug/L		90	69 - 127	8	22
Ethylbenzene	5.00	4.63		ug/L		93	80 - 124	2	22
m-Xylene & p-Xylene	5.00	4.79		ug/L		96	75 - 124	1	22
o-Xylene	5.00	4.66		ug/L		93	71 - 124	3	23
Styrene	5.00	4.41		ug/L		88	74 - 127	3	22
Bromoform	5.00	4.76		ug/L		95	48 - 127	2	23
Isopropylbenzene	5.00	5.31		ug/L		106	71 - 123	3	23
Bromobenzene	5.00	4.76		ug/L		95	74 - 130	1	23
1,1,2,2-Tetrachloroethane	5.00	4.79		ug/L		96	67 - 136	5	24
1,2,3-Trichloropropane	5.00	4.45		ug/L		89	67 - 135	2	25
N-Propylbenzene	5.00	4.73		ug/L		95	72 - 126	1	20
2-Chlorotoluene	5.00	4.58		ug/L		92	73 - 120	3	22
4-Chlorotoluene	5.00	4.79		ug/L		96	75 - 124	2	23
1,3,5-Trimethylbenzene	5.00	4.32		ug/L		86	75 - 123	2	23
tert-Butylbenzene	5.00	4.55		ug/L		91	70 - 129	3	24
1,2,4-Trimethylbenzene	5.00	4.36		ug/L		87	71 - 127	1	23
sec-Butylbenzene	5.00	4.41		ug/L		88	75 - 126	4	23
4-Isopropyltoluene	5.00	4.39		ug/L		88	78 - 125	1	24
1,3-Dichlorobenzene	5.00	4.70		ug/L		94	72 - 125	3	22
1,4-Dichlorobenzene	5.00	4.50		ug/L		90	71 - 129	2	22
n-Butylbenzene	5.00	4.26		ug/L		85	69 - 127	1	24
1,2-Dichlorobenzene	5.00	4.82		ug/L		96	72 - 129	1	22
1,2-Dibromo-3-Chloropropane	5.00	5.12		ug/L		102	55 - 135	14	29
1,2,4-Trichlorobenzene	5.00	5.01		ug/L		100	60 - 130	2	26
Hexachlorobutadiene	5.00	4.57		ug/L		91	63 - 130	3	26
Naphthalene	5.00	4.66		ug/L		93	54 - 137	2	28
1,2,3-Trichlorobenzene	5.00	4.98		ug/L		100	60 - 136	2	28

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	100		80 - 120
4-Bromofluorobenzene (Surr)	102		80 - 120
1,2-Dichloroethane-d4 (Surr)	99		80 - 120

Lab Sample ID: MB 580-471624/7

Matrix: Water

Analysis Batch: 471624

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			09/17/24 02:11	1
Chloromethane	ND		0.50	0.14	ug/L			09/17/24 02:11	1
Vinyl chloride	ND		0.10	0.040	ug/L			09/17/24 02:11	1
Bromomethane	ND		0.50	0.13	ug/L			09/17/24 02:11	1
Chloroethane	ND		0.50	0.24	ug/L			09/17/24 02:11	1
Carbon disulfide	ND		0.40	0.20	ug/L			09/17/24 02:11	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/17/24 02:11	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			09/17/24 02:11	1
Acetone	ND		10	3.1	ug/L			09/17/24 02:11	1

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

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

Lab Sample ID: MB 580-471624/7

Matrix: Water

Analysis Batch: 471624

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		5.0	1.2	ug/L			09/17/24 02:11	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			09/17/24 02:11	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/17/24 02:11	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/17/24 02:11	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			09/17/24 02:11	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/17/24 02:11	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			09/17/24 02:11	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/17/24 02:11	1
Chloroform	ND		0.20	0.030	ug/L			09/17/24 02:11	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			09/17/24 02:11	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/17/24 02:11	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/17/24 02:11	1
Benzene	ND		0.20	0.030	ug/L			09/17/24 02:11	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			09/17/24 02:11	1
Trichloroethene	ND		0.20	0.066	ug/L			09/17/24 02:11	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/17/24 02:11	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/17/24 02:11	1
Dibromomethane	ND		0.20	0.062	ug/L			09/17/24 02:11	1
Bromodichloromethane	ND		0.20	0.060	ug/L			09/17/24 02:11	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/17/24 02:11	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/17/24 02:11	1
Toluene	ND		0.20	0.050	ug/L			09/17/24 02:11	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/17/24 02:11	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/17/24 02:11	1
Tetrachloroethene	ND		0.24	0.084	ug/L			09/17/24 02:11	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/17/24 02:11	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/17/24 02:11	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/17/24 02:11	1
Chlorobenzene	ND		0.20	0.060	ug/L			09/17/24 02:11	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/17/24 02:11	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/17/24 02:11	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/17/24 02:11	1
o-Xylene	ND		0.50	0.23	ug/L			09/17/24 02:11	1
Styrene	ND		1.0	0.33	ug/L			09/17/24 02:11	1
Bromoform	ND		0.50	0.16	ug/L			09/17/24 02:11	1
Isopropylbenzene	ND		1.0	0.27	ug/L			09/17/24 02:11	1
Bromobenzene	ND		0.20	0.038	ug/L			09/17/24 02:11	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/17/24 02:11	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/17/24 02:11	1
N-Propylbenzene	ND		0.30	0.091	ug/L			09/17/24 02:11	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/17/24 02:11	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			09/17/24 02:11	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/17/24 02:11	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/17/24 02:11	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/17/24 02:11	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/17/24 02:11	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/17/24 02:11	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/17/24 02:11	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/17/24 02:11	1

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

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

Lab Sample ID: MB 580-471624/7

Matrix: Water

Analysis Batch: 471624

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.0	0.35	ug/L			09/17/24 02:11	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			09/17/24 02:11	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/17/24 02:11	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/17/24 02:11	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/17/24 02:11	1
Naphthalene	ND		1.5	0.52	ug/L			09/17/24 02:11	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/17/24 02:11	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		80 - 120		09/17/24 02:11	1
Dibromofluoromethane (Surr)	107		80 - 120		09/17/24 02:11	1
4-Bromofluorobenzene (Surr)	101		80 - 120		09/17/24 02:11	1
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		09/17/24 02:11	1

Lab Sample ID: LCS 580-471624/4

Matrix: Water

Analysis Batch: 471624

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	5.19		ug/L		104	20 - 150
Chloromethane	5.00	5.14		ug/L		103	32 - 150
Vinyl chloride	5.00	5.72		ug/L		114	41 - 150
Bromomethane	5.00	5.23		ug/L		105	51 - 148
Chloroethane	5.00	4.72		ug/L		94	54 - 140
Carbon disulfide	5.00	3.91		ug/L		78	54 - 142
Trichlorofluoromethane	5.00	4.64		ug/L		93	60 - 132
1,1-Dichloroethene	5.00	4.14		ug/L		83	60 - 129
Acetone	25.0	21.2		ug/L		85	49 - 150
Methylene Chloride	5.00	5.11		ug/L		102	40 - 142
Methyl tert-butyl ether	5.00	4.99		ug/L		100	61 - 131
2-Butanone (MEK)	25.0	21.1		ug/L		84	37 - 150
trans-1,2-Dichloroethene	5.00	4.50		ug/L		90	69 - 121
1,1-Dichloroethane	5.00	4.73		ug/L		95	74 - 120
2,2-Dichloropropane	5.00	4.33		ug/L		87	55 - 140
cis-1,2-Dichloroethene	5.00	4.71		ug/L		94	72 - 120
Chlorobromomethane	5.00	5.08		ug/L		102	79 - 121
Chloroform	5.00	4.70		ug/L		94	75 - 120
1,1,1-Trichloroethane	5.00	4.74		ug/L		95	70 - 121
Carbon tetrachloride	5.00	4.43		ug/L		89	66 - 130
1,1-Dichloropropene	5.00	4.36		ug/L		87	72 - 125
Benzene	5.00	4.69		ug/L		94	80 - 120
1,2-Dichloroethane	5.00	4.49		ug/L		90	74 - 127
Trichloroethene	5.00	4.58		ug/L		92	72 - 120
1,2-Dichloropropane	5.00	4.59		ug/L		92	69 - 130
4-Methyl-2-pentanone (MIBK)	25.0	24.0		ug/L		96	63 - 137
Dibromomethane	5.00	4.88		ug/L		98	65 - 141
Bromodichloromethane	5.00	4.96		ug/L		99	74 - 131
Dichlorobromomethane	5.00	4.96		ug/L		99	74 - 131

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

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

Lab Sample ID: LCS 580-471624/4

Matrix: Water

Analysis Batch: 471624

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,3-Dichloropropene	5.00	4.71		ug/L		94	77 - 131
Toluene	5.00	4.55		ug/L		91	80 - 126
trans-1,3-Dichloropropene	5.00	4.82		ug/L		96	71 - 138
1,1,2-Trichloroethane	5.00	4.38		ug/L		88	73 - 127
Tetrachloroethene	5.00	4.52		ug/L		90	75 - 124
1,3-Dichloropropane	5.00	4.93		ug/L		99	69 - 138
Chlorodibromomethane	5.00	4.96		ug/L		99	62 - 141
Ethylene Dibromide	5.00	4.46		ug/L		89	61 - 143
Chlorobenzene	5.00	4.64		ug/L		93	74 - 123
1,1,1,2-Tetrachloroethane	5.00	4.54		ug/L		91	69 - 127
Ethylbenzene	5.00	4.68		ug/L		94	80 - 124
m-Xylene & p-Xylene	5.00	4.76		ug/L		95	75 - 124
o-Xylene	5.00	4.71		ug/L		94	71 - 124
Styrene	5.00	4.46		ug/L		89	74 - 127
Bromoform	5.00	5.06		ug/L		101	48 - 127
Isopropylbenzene	5.00	5.30		ug/L		106	71 - 123
Bromobenzene	5.00	4.85		ug/L		97	74 - 130
1,1,2,2-Tetrachloroethane	5.00	5.08		ug/L		102	67 - 136
1,2,3-Trichloropropane	5.00	4.89		ug/L		98	67 - 135
N-Propylbenzene	5.00	4.90		ug/L		98	72 - 126
2-Chlorotoluene	5.00	4.76		ug/L		95	73 - 120
4-Chlorotoluene	5.00	4.86		ug/L		97	75 - 124
1,3,5-Trimethylbenzene	5.00	4.52		ug/L		90	75 - 123
tert-Butylbenzene	5.00	4.63		ug/L		93	70 - 129
1,2,4-Trimethylbenzene	5.00	4.44		ug/L		89	71 - 127
sec-Butylbenzene	5.00	4.50		ug/L		90	75 - 126
4-Isopropyltoluene	5.00	4.39		ug/L		88	78 - 125
1,3-Dichlorobenzene	5.00	5.07		ug/L		101	72 - 125
1,4-Dichlorobenzene	5.00	4.79		ug/L		96	71 - 129
n-Butylbenzene	5.00	4.39		ug/L		88	69 - 127
1,2-Dichlorobenzene	5.00	5.01		ug/L		100	72 - 129
1,2-Dibromo-3-Chloropropane	5.00	5.04		ug/L		101	55 - 135
1,2,4-Trichlorobenzene	5.00	5.12		ug/L		102	60 - 130
Hexachlorobutadiene	5.00	4.74		ug/L		95	63 - 130
Naphthalene	5.00	4.64		ug/L		93	54 - 137
1,2,3-Trichlorobenzene	5.00	5.20		ug/L		104	60 - 136

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	99		80 - 120
4-Bromofluorobenzene (Surr)	100		80 - 120
1,2-Dichloroethane-d4 (Surr)	99		80 - 120

QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

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

Lab Sample ID: LCSD 580-471624/5

Matrix: Water

Analysis Batch: 471624

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	4.91		ug/L		98	20 - 150	6	30
Chloromethane	5.00	4.90		ug/L		98	32 - 150	5	33
Vinyl chloride	5.00	5.57		ug/L		111	41 - 150	3	32
Bromomethane	5.00	4.94		ug/L		99	51 - 148	6	35
Chloroethane	5.00	4.66		ug/L		93	54 - 140	1	33
Carbon disulfide	5.00	3.82		ug/L		76	54 - 142	3	34
Trichlorofluoromethane	5.00	4.50		ug/L		90	60 - 132	3	32
1,1-Dichloroethene	5.00	4.01		ug/L		80	60 - 129	3	29
Acetone	25.0	22.2		ug/L		89	49 - 150	4	24
Methylene Chloride	5.00	4.96	J	ug/L		99	40 - 142	3	25
Methyl tert-butyl ether	5.00	5.05		ug/L		101	61 - 131	1	27
2-Butanone (MEK)	25.0	21.4		ug/L		86	37 - 150	1	35
trans-1,2-Dichloroethene	5.00	4.39		ug/L		88	69 - 121	2	27
1,1-Dichloroethane	5.00	4.62		ug/L		92	74 - 120	2	26
2,2-Dichloropropane	5.00	4.16		ug/L		83	55 - 140	4	31
cis-1,2-Dichloroethene	5.00	4.55		ug/L		91	72 - 120	4	22
Chlorobromomethane	5.00	5.10		ug/L		102	79 - 121	0	20
Chloroform	5.00	4.61		ug/L		92	75 - 120	2	21
1,1,1-Trichloroethane	5.00	4.68		ug/L		94	70 - 121	1	24
Carbon tetrachloride	5.00	4.37		ug/L		87	66 - 130	1	24
1,1-Dichloropropene	5.00	4.26		ug/L		85	72 - 125	2	23
Benzene	5.00	4.55		ug/L		91	80 - 120	3	22
1,2-Dichloroethane	5.00	4.44		ug/L		89	74 - 127	1	21
Trichloroethene	5.00	4.46		ug/L		89	72 - 120	3	22
1,2-Dichloropropane	5.00	4.65		ug/L		93	69 - 130	1	22
4-Methyl-2-pentanone (MIBK)	25.0	24.1		ug/L		97	63 - 137	1	26
Dibromomethane	5.00	5.04		ug/L		101	65 - 141	3	22
Bromodichloromethane	5.00	4.88		ug/L		98	74 - 131	2	21
Dichlorobromomethane	5.00	4.88		ug/L		98	74 - 131	2	21
cis-1,3-Dichloropropene	5.00	4.66		ug/L		93	77 - 131	1	24
Toluene	5.00	4.40		ug/L		88	80 - 126	3	20
trans-1,3-Dichloropropene	5.00	4.81		ug/L		96	71 - 138	0	26
1,1,2-Trichloroethane	5.00	4.45		ug/L		89	73 - 127	2	22
Tetrachloroethene	5.00	4.47		ug/L		89	75 - 124	1	20
1,3-Dichloropropane	5.00	4.95		ug/L		99	69 - 138	0	19
Chlorodibromomethane	5.00	4.91		ug/L		98	62 - 141	1	22
Ethylene Dibromide	5.00	4.40		ug/L		88	61 - 143	1	22
Chlorobenzene	5.00	4.53		ug/L		91	74 - 123	2	21
1,1,1,2-Tetrachloroethane	5.00	4.36		ug/L		87	69 - 127	4	22
Ethylbenzene	5.00	4.55		ug/L		91	80 - 124	3	22
m-Xylene & p-Xylene	5.00	4.63		ug/L		93	75 - 124	3	22
o-Xylene	5.00	4.59		ug/L		92	71 - 124	2	23
Styrene	5.00	4.42		ug/L		88	74 - 127	1	22
Bromoform	5.00	4.69		ug/L		94	48 - 127	8	23
Isopropylbenzene	5.00	5.09		ug/L		102	71 - 123	4	23
Bromobenzene	5.00	4.83		ug/L		97	74 - 130	0	23
1,1,2,2-Tetrachloroethane	5.00	5.19		ug/L		104	67 - 136	2	24
1,2,3-Trichloropropane	5.00	4.93		ug/L		99	67 - 135	1	25

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

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

Lab Sample ID: LCSD 580-471624/5

Matrix: Water

Analysis Batch: 471624

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
N-Propylbenzene	5.00	4.76		ug/L		95	72 - 126	3	20
2-Chlorotoluene	5.00	4.64		ug/L		93	73 - 120	2	22
4-Chlorotoluene	5.00	4.83		ug/L		97	75 - 124	1	23
1,3,5-Trimethylbenzene	5.00	4.40		ug/L		88	75 - 123	3	23
tert-Butylbenzene	5.00	4.63		ug/L		93	70 - 129	0	24
1,2,4-Trimethylbenzene	5.00	4.39		ug/L		88	71 - 127	1	23
sec-Butylbenzene	5.00	4.50		ug/L		90	75 - 126	0	23
4-Isopropyltoluene	5.00	4.33		ug/L		87	78 - 125	1	24
1,3-Dichlorobenzene	5.00	4.89		ug/L		98	72 - 125	4	22
1,4-Dichlorobenzene	5.00	4.72		ug/L		94	71 - 129	2	22
n-Butylbenzene	5.00	4.38		ug/L		88	69 - 127	0	24
1,2-Dichlorobenzene	5.00	5.01		ug/L		100	72 - 129	0	22
1,2-Dibromo-3-Chloropropane	5.00	5.01		ug/L		100	55 - 135	1	29
1,2,4-Trichlorobenzene	5.00	5.17		ug/L		103	60 - 130	1	26
Hexachlorobutadiene	5.00	4.74		ug/L		95	63 - 130	0	26
Naphthalene	5.00	4.69		ug/L		94	54 - 137	1	28
1,2,3-Trichlorobenzene	5.00	5.17		ug/L		103	60 - 136	1	28

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	99		80 - 120
4-Bromofluorobenzene (Surr)	100		80 - 120
1,2-Dichloroethane-d4 (Surr)	99		80 - 120

Lab Sample ID: 580-143753-14 MS

Matrix: Water

Analysis Batch: 471624

Client Sample ID: MWA-81i-091024

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	ND		5.00	6.60		ug/L		132	20 - 150
Chloromethane	ND		5.00	6.07		ug/L		121	32 - 150
Vinyl chloride	ND		5.00	7.17		ug/L		143	41 - 150
Bromomethane	ND		5.00	4.55		ug/L		91	51 - 148
Chloroethane	ND		5.00	5.60		ug/L		112	54 - 140
Carbon disulfide	ND		5.00	4.73		ug/L		95	54 - 142
Trichlorofluoromethane	ND		5.00	5.66		ug/L		113	60 - 132
1,1-Dichloroethene	ND		5.00	4.99		ug/L		100	60 - 129
Acetone	ND		25.0	24.6		ug/L		98	49 - 150
Methylene Chloride	ND		5.00	5.50		ug/L		110	40 - 142
Methyl tert-butyl ether	ND		5.00	5.67		ug/L		113	61 - 131
2-Butanone (MEK)	ND		25.0	21.7		ug/L		87	37 - 150
trans-1,2-Dichloroethene	ND		5.00	5.17		ug/L		103	69 - 121
1,1-Dichloroethane	ND		5.00	5.31		ug/L		106	74 - 120
2,2-Dichloropropane	ND		5.00	4.43		ug/L		89	55 - 140
cis-1,2-Dichloroethene	ND		5.00	5.37		ug/L		107	72 - 120
Chlorobromomethane	ND		5.00	5.59		ug/L		112	79 - 121
Chloroform	ND		5.00	5.33		ug/L		107	75 - 120
1,1,1-Trichloroethane	ND		5.00	5.86		ug/L		117	70 - 121

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

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

Lab Sample ID: 580-143753-14 MS

Matrix: Water

Analysis Batch: 471624

Client Sample ID: MWA-81i-091024

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon tetrachloride	ND		5.00	5.52		ug/L		110	66 - 130
1,1-Dichloropropene	ND		5.00	5.17		ug/L		103	72 - 125
Benzene	ND		5.00	5.47		ug/L		109	80 - 120
1,2-Dichloroethane	ND		5.00	4.96		ug/L		99	74 - 127
Trichloroethene	ND		5.00	5.46		ug/L		109	72 - 120
1,2-Dichloropropane	ND		5.00	5.37		ug/L		107	69 - 130
4-Methyl-2-pentanone (MIBK)	ND		25.0	24.7		ug/L		99	63 - 137
Dibromomethane	ND		5.00	5.52		ug/L		110	65 - 141
Dichlorobromomethane	ND		5.00	5.66		ug/L		113	74 - 131
cis-1,3-Dichloropropene	ND		5.00	5.13		ug/L		103	77 - 131
Toluene	ND		5.00	5.28		ug/L		106	80 - 126
trans-1,3-Dichloropropene	ND		5.00	5.48		ug/L		110	71 - 138
1,1,2-Trichloroethane	ND		5.00	4.80		ug/L		96	73 - 127
Tetrachloroethene	ND		5.00	5.43		ug/L		109	75 - 124
1,3-Dichloropropane	ND		5.00	5.68		ug/L		114	69 - 138
Chlorodibromomethane	ND		5.00	5.48		ug/L		110	62 - 141
Ethylene Dibromide	ND		5.00	4.74		ug/L		95	61 - 143
Chlorobenzene	ND		5.00	5.18		ug/L		104	74 - 123
1,1,1,2-Tetrachloroethane	ND		5.00	4.86		ug/L		97	69 - 127
Ethylbenzene	ND		5.00	5.33		ug/L		107	80 - 124
m-Xylene & p-Xylene	ND		5.00	5.48		ug/L		110	75 - 124
o-Xylene	ND		5.00	5.27		ug/L		105	71 - 124
Styrene	ND		5.00	5.01		ug/L		100	74 - 127
Bromoform	ND		5.00	5.22		ug/L		104	48 - 127
Isopropylbenzene	ND	F1	5.00	6.22	F1	ug/L		124	71 - 123
Bromobenzene	ND		5.00	4.95		ug/L		99	74 - 130
1,1,2,2-Tetrachloroethane	ND		5.00	5.13		ug/L		103	67 - 136
1,2,3-Trichloropropane	ND		5.00	4.74		ug/L		95	67 - 135
N-Propylbenzene	ND		5.00	5.33		ug/L		107	72 - 126
2-Chlorotoluene	ND		5.00	5.00		ug/L		100	73 - 120
4-Chlorotoluene	ND		5.00	5.10		ug/L		102	75 - 124
1,3,5-Trimethylbenzene	ND		5.00	4.94		ug/L		99	75 - 123
tert-Butylbenzene	ND		5.00	5.03		ug/L		101	70 - 129
1,2,4-Trimethylbenzene	ND		5.00	4.85		ug/L		97	71 - 127
sec-Butylbenzene	ND		5.00	5.07		ug/L		101	75 - 126
4-Isopropyltoluene	ND		5.00	4.87		ug/L		97	78 - 125
1,3-Dichlorobenzene	ND		5.00	5.23		ug/L		105	72 - 125
1,4-Dichlorobenzene	ND		5.00	4.96		ug/L		99	71 - 129
n-Butylbenzene	ND		5.00	4.78		ug/L		96	69 - 127
1,2-Dichlorobenzene	ND		5.00	5.10		ug/L		102	72 - 129
1,2-Dibromo-3-Chloropropane	ND		5.00	5.06		ug/L		101	55 - 135
1,2,4-Trichlorobenzene	ND		5.00	5.28		ug/L		106	60 - 130
Hexachlorobutadiene	ND		5.00	5.00		ug/L		100	63 - 130
Naphthalene	ND		5.00	4.86		ug/L		97	54 - 137
1,2,3-Trichlorobenzene	ND		5.00	5.28		ug/L		106	60 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	100		80 - 120

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

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

Lab Sample ID: 580-143753-14 MS

Matrix: Water

Analysis Batch: 471624

Client Sample ID: MWA-81i-091024

Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	98		80 - 120
4-Bromofluorobenzene (Surr)	101		80 - 120
1,2-Dichloroethane-d4 (Surr)	101		80 - 120

Lab Sample ID: 580-143753-14 MSD

Matrix: Water

Analysis Batch: 471624

Client Sample ID: MWA-81i-091024

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	7.00		ug/L		140	20 - 150	6	30
Chloromethane	ND		5.00	6.57		ug/L		131	32 - 150	8	33
Vinyl chloride	ND		5.00	7.19		ug/L		144	41 - 150	0	32
Bromomethane	ND		5.00	6.04		ug/L		121	51 - 148	28	35
Chloroethane	ND		5.00	5.97		ug/L		119	54 - 140	6	33
Carbon disulfide	ND		5.00	5.08		ug/L		102	54 - 142	7	34
Trichlorofluoromethane	ND		5.00	6.12		ug/L		122	60 - 132	8	32
1,1-Dichloroethene	ND		5.00	5.29		ug/L		106	60 - 129	6	29
Acetone	ND		25.0	25.9		ug/L		103	49 - 150	5	24
Methylene Chloride	ND		5.00	5.77		ug/L		115	40 - 142	5	25
Methyl tert-butyl ether	ND		5.00	5.35		ug/L		107	61 - 131	6	27
2-Butanone (MEK)	ND		25.0	20.5		ug/L		82	37 - 150	5	35
trans-1,2-Dichloroethene	ND		5.00	5.52		ug/L		110	69 - 121	7	27
1,1-Dichloroethane	ND		5.00	5.57		ug/L		111	74 - 120	5	26
2,2-Dichloropropane	ND		5.00	4.51		ug/L		90	55 - 140	2	31
cis-1,2-Dichloroethene	ND		5.00	5.45		ug/L		109	72 - 120	2	22
Chlorobromomethane	ND		5.00	5.52		ug/L		110	79 - 121	1	20
Chloroform	ND		5.00	5.56		ug/L		111	75 - 120	4	21
1,1,1-Trichloroethane	ND		5.00	5.90		ug/L		118	70 - 121	1	24
Carbon tetrachloride	ND		5.00	5.66		ug/L		113	66 - 130	3	24
1,1-Dichloropropene	ND		5.00	5.32		ug/L		106	72 - 125	3	23
Benzene	ND		5.00	5.38		ug/L		108	80 - 120	2	22
1,2-Dichloroethane	ND		5.00	5.16		ug/L		103	74 - 127	4	21
Trichloroethene	ND		5.00	5.23		ug/L		105	72 - 120	4	22
1,2-Dichloropropane	ND		5.00	5.23		ug/L		105	69 - 130	3	22
4-Methyl-2-pentanone (MIBK)	ND		25.0	24.5		ug/L		98	63 - 137	1	26
Dibromomethane	ND		5.00	5.61		ug/L		112	65 - 141	2	22
Dichlorobromomethane	ND		5.00	5.77		ug/L		115	74 - 131	2	21
cis-1,3-Dichloropropene	ND		5.00	5.14		ug/L		103	77 - 131	0	24
Toluene	ND		5.00	5.34		ug/L		107	80 - 126	1	20
trans-1,3-Dichloropropene	ND		5.00	4.98		ug/L		100	71 - 138	10	26
1,1,2-Trichloroethane	ND		5.00	4.67		ug/L		93	73 - 127	3	22
Tetrachloroethene	ND		5.00	5.15		ug/L		103	75 - 124	5	20
1,3-Dichloropropane	ND		5.00	5.27		ug/L		105	69 - 138	8	19
Chlorodibromomethane	ND		5.00	5.13		ug/L		103	62 - 141	7	22
Ethylene Dibromide	ND		5.00	4.84		ug/L		97	61 - 143	2	22
Chlorobenzene	ND		5.00	5.19		ug/L		104	74 - 123	0	21
1,1,1,2-Tetrachloroethane	ND		5.00	4.71		ug/L		94	69 - 127	3	22
Ethylbenzene	ND		5.00	5.49		ug/L		110	80 - 124	3	22

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

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

Lab Sample ID: 580-143753-14 MSD

Matrix: Water

Analysis Batch: 471624

Client Sample ID: MWA-81i-091024

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
m-Xylene & p-Xylene	ND		5.00	5.45		ug/L		109	75 - 124	1	22
o-Xylene	ND		5.00	5.48		ug/L		110	71 - 124	4	23
Styrene	ND		5.00	4.97		ug/L		99	74 - 127	1	22
Bromoform	ND		5.00	5.09		ug/L		102	48 - 127	3	23
Isopropylbenzene	ND	F1	5.00	6.28	F1	ug/L		126	71 - 123	1	23
Bromobenzene	ND		5.00	5.09		ug/L		102	74 - 130	3	23
1,1,2,2-Tetrachloroethane	ND		5.00	5.19		ug/L		104	67 - 136	1	24
1,2,3-Trichloropropane	ND		5.00	4.83		ug/L		97	67 - 135	2	25
N-Propylbenzene	ND		5.00	5.56		ug/L		111	72 - 126	4	20
2-Chlorotoluene	ND		5.00	5.19		ug/L		104	73 - 120	4	22
4-Chlorotoluene	ND		5.00	5.39		ug/L		108	75 - 124	6	23
1,3,5-Trimethylbenzene	ND		5.00	5.04		ug/L		101	75 - 123	2	23
tert-Butylbenzene	ND		5.00	5.28		ug/L		106	70 - 129	5	24
1,2,4-Trimethylbenzene	ND		5.00	5.02		ug/L		100	71 - 127	4	23
sec-Butylbenzene	ND		5.00	5.27		ug/L		105	75 - 126	4	23
4-Isopropyltoluene	ND		5.00	5.06		ug/L		101	78 - 125	4	24
1,3-Dichlorobenzene	ND		5.00	5.44		ug/L		109	72 - 125	4	22
1,4-Dichlorobenzene	ND		5.00	5.07		ug/L		101	71 - 129	2	22
n-Butylbenzene	ND		5.00	5.11		ug/L		102	69 - 127	7	24
1,2-Dichlorobenzene	ND		5.00	5.24		ug/L		105	72 - 129	3	22
1,2-Dibromo-3-Chloropropane	ND		5.00	5.28		ug/L		106	55 - 135	4	29
1,2,4-Trichlorobenzene	ND		5.00	5.39		ug/L		108	60 - 130	2	26
Hexachlorobutadiene	ND		5.00	5.40		ug/L		108	63 - 130	8	26
Naphthalene	ND		5.00	4.81		ug/L		96	54 - 137	1	28
1,2,3-Trichlorobenzene	ND		5.00	5.19		ug/L		104	60 - 136	2	28

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	101		80 - 120
4-Bromofluorobenzene (Surr)	103		80 - 120
1,2-Dichloroethane-d4 (Surr)	102		80 - 120

Lab Sample ID: MB 580-471759/7

Matrix: Water

Analysis Batch: 471759

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		1.0	0.26	ug/L			09/17/24 22:44	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120					09/17/24 22:44	1
1,2-Dichloroethane-d4 (Surr)	97		80 - 120					09/17/24 22:44	1
4-Bromofluorobenzene (Surr)	100		80 - 120					09/17/24 22:44	1
Dibromofluoromethane (Surr)	101		80 - 120					09/17/24 22:44	1

Eurofins Seattle

QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

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

Lab Sample ID: LCS 580-471759/4

Matrix: Water

Analysis Batch: 471759

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	5.00	5.01		ug/L		100	78 - 127
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Toluene-d8 (Surr)	100		80 - 120				
1,2-Dichloroethane-d4 (Surr)	99		80 - 120				
4-Bromofluorobenzene (Surr)	99		80 - 120				
Dibromofluoromethane (Surr)	99		80 - 120				

Lab Sample ID: LCSD 580-471759/5

Matrix: Water

Analysis Batch: 471759

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
Chloroform	5.00	5.01		ug/L		100	78 - 127	0	14
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
Toluene-d8 (Surr)	100		80 - 120						
1,2-Dichloroethane-d4 (Surr)	99		80 - 120						
4-Bromofluorobenzene (Surr)	100		80 - 120						
Dibromofluoromethane (Surr)	98		80 - 120						

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-482287/7

Matrix: Water

Analysis Batch: 482287

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			09/18/24 18:42	1

Lab Sample ID: LCS 570-482287/8

Matrix: Water

Analysis Batch: 482287

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	25.0	25.2		ug/L		101	85 - 115

Lab Sample ID: LCSD 570-482287/9

Matrix: Water

Analysis Batch: 482287

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
Perchlorate	25.0	25.0		ug/L		100	85 - 115	1	15

Eurofins Seattle

QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: MB 570-482288/7

Matrix: Water

Analysis Batch: 482288

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			09/18/24 18:49	1

Lab Sample ID: LCS 570-482288/8

Matrix: Water

Analysis Batch: 482288

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	25.0	25.1		ug/L		100	85 - 115

Lab Sample ID: LCSD 570-482288/9

Matrix: Water

Analysis Batch: 482288

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
Perchlorate	25.0	25.4		ug/L		101	85 - 115	1	15

Lab Sample ID: 580-143753-14 MS

Matrix: Water

Analysis Batch: 482288

Client Sample ID: MWA-81i-091024

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	ND		25.0	26.1		ug/L		104	80 - 120

Lab Sample ID: 580-143753-14 MSD

Matrix: Water

Analysis Batch: 482288

Client Sample ID: MWA-81i-091024

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		25.0	26.5		ug/L		106	80 - 120	2	15

Lab Sample ID: MB 570-482809/7

Matrix: Water

Analysis Batch: 482809

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			09/19/24 21:46	1

Lab Sample ID: LCS 570-482809/8

Matrix: Water

Analysis Batch: 482809

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	25.0	25.0		ug/L		100	85 - 115

Lab Sample ID: LCSD 570-482809/9

Matrix: Water

Analysis Batch: 482809

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
Perchlorate	25.0	25.0		ug/L		100	85 - 115	0	15

Eurofins Seattle

QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-472313/3

Matrix: Water

Analysis Batch: 472313

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			09/21/24 22:09	1

Lab Sample ID: LCS 580-472313/4

Matrix: Water

Analysis Batch: 472313

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	51.4		mg/L		103	90 - 110

Lab Sample ID: LCSD 580-472313/5

Matrix: Water

Analysis Batch: 472313

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	51.4		mg/L		103	90 - 110	0	15

Lab Sample ID: MB 580-472583/45

Matrix: Water

Analysis Batch: 472583

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			09/21/24 04:35	1

Lab Sample ID: LCS 580-472583/46

Matrix: Water

Analysis Batch: 472583

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	51.5		mg/L		103	90 - 110

Lab Sample ID: LCSD 580-472583/47

Matrix: Water

Analysis Batch: 472583

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	51.6		mg/L		103	90 - 110	0	15

Lab Sample ID: 580-143753-14 MS

Matrix: Water

Analysis Batch: 472583

Client Sample ID: MWA-81i-091024

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	8.4	F1	50.0	64.5	F1	mg/L		112	90 - 110

Lab Sample ID: 580-143753-14 MSD

Matrix: Water

Analysis Batch: 472583

Client Sample ID: MWA-81i-091024

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	8.4	F1	50.0	62.5		mg/L		108	90 - 110	3	15

Eurofins Seattle

Lab Chronicle

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: TB-090924

Lab Sample ID: 580-143753-1

Date Collected: 09/09/24 00:01

Matrix: Water

Date Received: 09/11/24 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471506	K1K	EET SEA	09/15/24 10:34

Client Sample ID: MWA-82-090924

Lab Sample ID: 580-143753-2

Date Collected: 09/09/24 07:29

Matrix: Water

Date Received: 09/11/24 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471506	K1K	EET SEA	09/15/24 12:53
Total/NA	Analysis	314.0		5	482287	U9XB	EET CAL 4	09/19/24 06:36
Total/NA	Analysis	300.0		1	472583	MLT	EET SEA	09/21/24 07:22

Client Sample ID: PA-09-090924

Lab Sample ID: 580-143753-3

Date Collected: 09/09/24 08:32

Matrix: Water

Date Received: 09/11/24 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471506	K1K	EET SEA	09/15/24 13:16
Total/NA	Analysis	314.0		5	482287	U9XB	EET CAL 4	09/19/24 06:55
Total/NA	Analysis	300.0		1	472583	MLT	EET SEA	09/21/24 07:34

Client Sample ID: PA-26d-090924

Lab Sample ID: 580-143753-4

Date Collected: 09/09/24 09:27

Matrix: Water

Date Received: 09/11/24 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471506	K1K	EET SEA	09/15/24 13:39
Total/NA	Analysis	314.0		1	482288	U9XB	EET CAL 4	09/18/24 22:14
Total/NA	Analysis	300.0		1	472583	MLT	EET SEA	09/21/24 07:46

Client Sample ID: PA-25d-090924

Lab Sample ID: 580-143753-5

Date Collected: 09/09/24 10:21

Matrix: Water

Date Received: 09/11/24 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471506	K1K	EET SEA	09/15/24 14:02
Total/NA	Analysis	314.0		1	482288	U9XB	EET CAL 4	09/18/24 22:34
Total/NA	Analysis	300.0		1	472583	MLT	EET SEA	09/21/24 08:09

Client Sample ID: PA-15i-090924

Lab Sample ID: 580-143753-6

Date Collected: 09/09/24 11:36

Matrix: Water

Date Received: 09/11/24 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471506	K1K	EET SEA	09/15/24 14:25
Total/NA	Analysis	314.0		10	482288	U9XB	EET CAL 4	09/18/24 22:53

Eurofins Seattle

Lab Chronicle

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-15i-090924

Lab Sample ID: 580-143753-6

Date Collected: 09/09/24 11:36

Matrix: Water

Date Received: 09/11/24 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	472583	MLT	EET SEA	09/21/24 08:21

Client Sample ID: PA-08-090924

Lab Sample ID: 580-143753-7

Date Collected: 09/09/24 12:23

Matrix: Water

Date Received: 09/11/24 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471506	K1K	EET SEA	09/15/24 14:48
Total/NA	Analysis	314.0		10	482288	U9XB	EET CAL 4	09/18/24 23:13
Total/NA	Analysis	300.0		10	472583	MLT	EET SEA	09/21/24 09:21

Client Sample ID: PA-03-090924

Lab Sample ID: 580-143753-8

Date Collected: 09/09/24 08:58

Matrix: Water

Date Received: 09/11/24 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471506	K1K	EET SEA	09/15/24 15:11
Total/NA	Analysis	314.0		10	482288	U9XB	EET CAL 4	09/18/24 23:33
Total/NA	Analysis	300.0		1	472583	MLT	EET SEA	09/21/24 09:33

Client Sample ID: PA-27d-090924

Lab Sample ID: 580-143753-9

Date Collected: 09/09/24 10:20

Matrix: Water

Date Received: 09/11/24 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471506	K1K	EET SEA	09/15/24 15:34
Total/NA	Analysis	314.0		10	482288	U9XB	EET CAL 4	09/18/24 23:53
Total/NA	Analysis	300.0		10	472583	MLT	EET SEA	09/21/24 09:57

Client Sample ID: PA-17iR-090924

Lab Sample ID: 580-143753-10

Date Collected: 09/09/24 11:30

Matrix: Water

Date Received: 09/11/24 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471506	K1K	EET SEA	09/15/24 15:58
Total/NA	Analysis	314.0		10	482288	U9XB	EET CAL 4	09/19/24 00:13
Total/NA	Analysis	300.0		1	472583	MLT	EET SEA	09/21/24 10:20

Client Sample ID: PA-18d-090924

Lab Sample ID: 580-143753-11

Date Collected: 09/09/24 12:58

Matrix: Water

Date Received: 09/11/24 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471506	K1K	EET SEA	09/15/24 16:21
Total/NA	Analysis	314.0		10	482288	U9XB	EET CAL 4	09/19/24 00:33

Eurofins Seattle

Lab Chronicle

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-18d-090924

Lab Sample ID: 580-143753-11

Date Collected: 09/09/24 12:58

Matrix: Water

Date Received: 09/11/24 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	472583	MLT	EET SEA	09/21/24 10:32

Client Sample ID: RB-01-091024

Lab Sample ID: 580-143753-12

Date Collected: 09/10/24 06:00

Matrix: Water

Date Received: 09/11/24 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471624	JBT	EET SEA	09/17/24 02:34
Total/NA	Analysis	314.0		1	482288	U9XB	EET CAL 4	09/19/24 00:53
Total/NA	Analysis	300.0		1	472583	MLT	EET SEA	09/21/24 10:44

Client Sample ID: MWA-41-091024

Lab Sample ID: 580-143753-13

Date Collected: 09/10/24 06:59

Matrix: Water

Date Received: 09/11/24 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471624	JBT	EET SEA	09/17/24 03:21
Total/NA	Analysis	314.0		1	482288	U9XB	EET CAL 4	09/19/24 01:12
Total/NA	Analysis	300.0		1	472583	MLT	EET SEA	09/21/24 10:56

Client Sample ID: MWA-81i-091024

Lab Sample ID: 580-143753-14

Date Collected: 09/10/24 07:40

Matrix: Water

Date Received: 09/11/24 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471624	JBT	EET SEA	09/17/24 03:44
Total/NA	Analysis	314.0		1	482288	U9XB	EET CAL 4	09/19/24 02:12
Total/NA	Analysis	300.0		1	472583	MLT	EET SEA	09/21/24 11:08

Client Sample ID: PA-23d-091024

Lab Sample ID: 580-143753-15

Date Collected: 09/10/24 11:22

Matrix: Water

Date Received: 09/11/24 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471624	JBT	EET SEA	09/17/24 04:07
Total/NA	Analysis	314.0		20	482288	U9XB	EET CAL 4	09/19/24 03:12
Total/NA	Analysis	300.0		1000	472583	MLT	EET SEA	09/21/24 12:55

Client Sample ID: PA-24d-091024

Lab Sample ID: 580-143753-16

Date Collected: 09/10/24 12:14

Matrix: Water

Date Received: 09/11/24 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471624	JBT	EET SEA	09/17/24 04:30
Total/NA	Analysis	314.0		20	482288	U9XB	EET CAL 4	09/19/24 03:31

Eurofins Seattle

Lab Chronicle

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-24d-091024

Date Collected: 09/10/24 12:14

Date Received: 09/11/24 14:17

Lab Sample ID: 580-143753-16

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1000	472313	MLT	EET SEA	09/22/24 01:55

Client Sample ID: PA-04-091024

Date Collected: 09/10/24 06:51

Date Received: 09/11/24 14:17

Lab Sample ID: 580-143753-17

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471624	JBT	EET SEA	09/17/24 04:53
Total/NA	Analysis	314.0		5	482288	U9XB	EET CAL 4	09/19/24 03:51
Total/NA	Analysis	300.0		1	472313	MLT	EET SEA	09/22/24 02:07

Client Sample ID: Dup-01-091024

Date Collected: 09/10/24 07:56

Date Received: 09/11/24 14:17

Lab Sample ID: 580-143753-18

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471624	JBT	EET SEA	09/17/24 05:16
Total/NA	Analysis	314.0		10	482288	U9XB	EET CAL 4	09/19/24 04:11
Total/NA	Analysis	300.0		1	472313	MLT	EET SEA	09/22/24 02:19

Client Sample ID: PA-10i-091024

Date Collected: 09/10/24 07:55

Date Received: 09/11/24 14:17

Lab Sample ID: 580-143753-19

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471624	JBT	EET SEA	09/17/24 05:39
Total/NA	Analysis	314.0		10	482288	U9XB	EET CAL 4	09/19/24 04:31
Total/NA	Analysis	300.0		1	472313	MLT	EET SEA	09/22/24 03:07

Client Sample ID: MWA-63-091024

Date Collected: 09/10/24 09:16

Date Received: 09/11/24 14:17

Lab Sample ID: 580-143753-20

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471624	JBT	EET SEA	09/17/24 06:25
Total/NA	Analysis	8260D	DL	10	471759	JBT	EET SEA	09/18/24 03:44
Total/NA	Analysis	314.0		1	482288	U9XB	EET CAL 4	09/19/24 04:51
Total/NA	Analysis	300.0		1	472313	MLT	EET SEA	09/22/24 03:19

Client Sample ID: PA-44i-091024

Date Collected: 09/10/24 11:22

Date Received: 09/11/24 14:17

Lab Sample ID: 580-143753-21

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471624	JBT	EET SEA	09/17/24 06:02

Eurofins Seattle

Lab Chronicle

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Client Sample ID: PA-44i-091024
Date Collected: 09/10/24 11:22
Date Received: 09/11/24 14:17

Lab Sample ID: 580-143753-21
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	314.0		5	482288	U9XB	EET CAL 4	09/19/24 05:11
Total/NA	Analysis	300.0		10	472313	MLT	EET SEA	09/22/24 03:42

Client Sample ID: MWA-31i(d)-091024
Date Collected: 09/10/24 12:53
Date Received: 09/11/24 14:17

Lab Sample ID: 580-143753-22
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471624	JBT	EET SEA	09/17/24 06:49
Total/NA	Analysis	314.0	DL	4000	482809	U9XB	EET CAL 4	09/20/24 07:03
Total/NA	Analysis	300.0		1000	472313	MLT	EET SEA	09/22/24 04:06

Laboratory References:
EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
EET SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Laboratory: Eurofins Seattle

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

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4167	07-07-25

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-24
Arkansas DEQ	State	88-0161	07-02-25
California	Los Angeles County Sanitation Districts	9257304	08-01-24 *
California	State	3082	07-31-26
Kansas	NELAP	E-10420	07-31-25
Nevada	State	CA00111	07-31-25
Oregon	NELAP	4175	02-02-25
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	10-11-24

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Seattle

Sample Summary

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143753-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-143753-1	TB-090924	Water	09/09/24 00:01	09/11/24 14:17
580-143753-2	MWA-82-090924	Water	09/09/24 07:29	09/11/24 14:17
580-143753-3	PA-09-090924	Water	09/09/24 08:32	09/11/24 14:17
580-143753-4	PA-26d-090924	Water	09/09/24 09:27	09/11/24 14:17
580-143753-5	PA-25d-090924	Water	09/09/24 10:21	09/11/24 14:17
580-143753-6	PA-15i-090924	Water	09/09/24 11:36	09/11/24 14:17
580-143753-7	PA-08-090924	Water	09/09/24 12:23	09/11/24 14:17
580-143753-8	PA-03-090924	Water	09/09/24 08:58	09/11/24 14:17
580-143753-9	PA-27d-090924	Water	09/09/24 10:20	09/11/24 14:17
580-143753-10	PA-17iR-090924	Water	09/09/24 11:30	09/11/24 14:17
580-143753-11	PA-18d-090924	Water	09/09/24 12:58	09/11/24 14:17
580-143753-12	RB-01-091024	Water	09/10/24 06:00	09/11/24 14:17
580-143753-13	MWA-41-091024	Water	09/10/24 06:59	09/11/24 14:17
580-143753-14	MWA-81i-091024	Water	09/10/24 07:40	09/11/24 14:17
580-143753-15	PA-23d-091024	Water	09/10/24 11:22	09/11/24 14:17
580-143753-16	PA-24d-091024	Water	09/10/24 12:14	09/11/24 14:17
580-143753-17	PA-04-091024	Water	09/10/24 06:51	09/11/24 14:17
580-143753-18	Dup-01-091024	Water	09/10/24 07:56	09/11/24 14:17
580-143753-19	PA-10i-091024	Water	09/10/24 07:55	09/11/24 14:17
580-143753-20	MWA-63-091024	Water	09/10/24 09:16	09/11/24 14:17
580-143753-21	PA-44i-091024	Water	09/10/24 11:22	09/11/24 14:17
580-143753-22	MWA-31i(d)-091024	Water	09/10/24 12:53	09/11/24 14:17

Chain of Custody Record

Client Information		Sampler: ST/PV	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No:						
Client Contact: Avery Soplat and Andrew Gardner		Phone:	E-Mail: sheri.cruz@testamericainc.com		Page: 1 of 2						
Company: ERM-West		Analysis Requested			Job #:						
Address: 1050 SW 6th Avenue Suite 1650					Due Date Requested:						
City: Portland					TAT Requested (days): 15BD						
State, Zip: OR, 97204											
Phone:					PO #: PN 0732445.207						
Email: avery.soplat@erm.com andrew.gardner@erm.com					WO #:						
Project Name: Arkema - Q3 2024 Groundwater event		Project #: 0732445		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 Dodecahydral I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify)							
Site:		SSOW#:									
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Solid, Overstake, BT+Tissue, AsAir)	Field Filtered Sample (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:
					X	A	A	N	N		
TB-090924	9/9/24		G	Water			X			2	
MWA-82-090924		0729		Water			X	X	X	5	
PA-09-090924		0832		Water			X	X	X	5	
PA-26d-090924		0927		Water			X	X	X	5	
PA-25d-090924		1021		Water			X	X	X	5	
PA-15i-090924		1136		Water			X	X	X	5	
PA-08-090924		1223		Water			X	X	X	5	
PA-03-090924		0858		Water			X	X	X		
PA-27d-090924		1020		Water		X		X	X		
PA-17R-090924		1130					X	X	X		
PA-18d-090924		1258				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: [Signature]		Date/Time: 9/11/24	Company: ERM		Received by: [Signature]		Date/Time: 9/11/24		H/T		Company: ERM
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.:		Cooler Temperature(s) °C and Other Remarks: 22.21 PD- 8.7							

Chain of Custody Record

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: 1 of 2					
Company: ERM-West				Analysis Requested				Job #:					
Address: 1050 SW 6th Avenue Suite 1650		Due Date Requested:						Preservation Codes:					
City: Portland		TAT Requested (days): 15BD						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)					
State, Zip: OR, 97204		PO #: PN 0732445.207											
Phone:		WO #:											
Email: avery.soplata@erm.com andrew.gardner@erm.com		Project #: 0732445											
Project Name: Arkema - Q3 2024 Groundwater event		SSOW#:											
Site:													
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)	9250C regular level standard VOA list-Seattle	9250C LL - Standard VOA list-Seattle	300.0_28D-Chloride-Seattle	314 Perchlorate	Total Number of containers	Special Instructions/Note:
TB-090924		9/9/24		6	Water			X				2	
MWA-82-090924			0729		Water			X	X	X		5	
PA-09-090924			0832		Water			X	X	X		5	
PA-26d-090924			0927		Water			X	X	X		5	
PA-25d-090924			1021		Water			X	X	X		5	
PA-15i-090924			1136		Water			X	X	X		5	
PA-08-090924			1223		Water			X	X	X			
PA-03-090924			0858		Water			X	X	X			
PA-27d-090924			1020		Water			X	X	X			
PA-17iR-090924			1130					X	X	X			
PA-18d-090924			1258					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: [Signature]		Date/Time: 9/11/24		Company: ERM		Received by: [Signature]		Date/Time: 9/11/24		H/7		Company: ERM	
Relinquished by: [Signature]		Date/Time: 9/12/24 1630		Company: ERM		Received by: [Signature]		Date/Time: 9/12/24		0945		Company: ERM	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:				Company:	
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 2.2/2.1 PDK & IR									

[illegible]

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

Loc: 580
143753

3.6/3.6 Sc12

eurofins Environment & TestAmerica

Ver: 01/16/2019



FW: Incoming Perchlorate Samples, 580-143753

From Christopher Williams <Chris.Williams@et.eurofinsus.com>
Date Mon 9/16/2024 2:41 PM
To Sacramento - Sample Receiving <Sacramento-SampleReceiving@et.eurofinsus.com>

Verified Sender: This email is from an internal and/or verified domain which passed security verifications. Remember to still be cautious with personal data and follow company policies.

We need to ship these to ECL tonight, can you pull these please.

Chris Williams

Direct: +1 916-374-4444
Mobile: +1 509-993-0594
Chris.Williams@ET.EurofinsUS.com

From: Sheri Cruz <Sheri.Cruz@et.eurofinsus.com>
Sent: Monday, September 16, 2024 2:40 PM
To: Christopher Williams <Chris.Williams@et.eurofinsus.com>; Jason Baynes <Jason.Baynes@et.eurofinsus.com>
Subject: RE: Incoming Perchlorate Samples, 580-143753

Verified Sender: This email is from an internal and/or verified domain which passed security verifications. Remember to still be cautious with personal data and follow company policies.

Hi Chris,
580-143753 samples 2-22 with 14MS/MSD. They are in location W8 Shelf A in Walkin. It will be one plastic 250mL unpreserved container for perchlorates for all samples 2-22.

Thank you

Sheri Cruz
Project Management

Phone: 253-248-4960

E-mail: sheri.cruz@et.eurofinsus.com

Follow us! [Facebook](#) | [LinkedIn](#)

From: Christopher Williams <Chris.Williams@et.eurofinsus.com>
Sent: Monday, September 16, 2024 2:11 PM
To: Jason Baynes <Jason.Baynes@et.eurofinsus.com>; Sheri Cruz <Sheri.Cruz@et.eurofinsus.com>
Subject: RE: Incoming Perchlorate Samples, 580-143753

<https://outlook.office.com/mail/inbox/id/AAQkADYxZiE0NmQ2LTViMmQ1NDRmNy1hYzBhLTlhMWU2MjUxNmI1OQQAQALYwJRZLrhBPpRtppvS0kOq%...> 2/3

From: Jason Baynes <Jason.Baynes@et.eurofinsus.com>
Sent: Monday, September 16, 2024 9:45 AM
To: Sheri Cruz <Sheri.Cruz@et.eurofinsus.com>; Salvador Oropeza <Salvador.Oropeza@et.eurofinsus.com>
Subject: RE: Incoming Perchlorate Samples, 580-143753

Verified Sender: This email is from an internal and/or verified domain which passed security verifications. Remember to still be cautious with personal data and follow company policies.

Hi Sheri,

I was out on Friday. Did anyone get back to you, or is this already fixed?

From: Sheri Cruz <Sheri.Cruz@et.eurofinsus.com>
Sent: Thursday, September 12, 2024 4:57 PM
To: Jason Baynes <Jason.Baynes@et.eurofinsus.com>; Salvador Oropeza <Salvador.Oropeza@et.eurofinsus.com>
Subject: RE: Incoming Perchlorate Samples, 580-143753

Verified Sender: This email is from an internal and/or verified domain which passed security verifications. Remember to still be cautious with personal data and follow company policies.

I haven't heard back about these. I confirmed they were sent yesterday to Sacramento. Are you able to send them out to calscience? I have canceled them for Sac and added calscience since you are down for perchlorates.

Sheri Cruz
Project Manager

Phone: 253-248-4960

E-mail: sheri.cruz@et.eurofinsus.com

Follow us! Facebook | LinkedIn

From: Jason Baynes <Jason.Baynes@et.eurofinsus.com>
Sent: Thursday, September 12, 2024 8:53 AM
To: Salvador Oropeza <Salvador.Oropeza@et.eurofinsus.com>; Sheri Cruz <Sheri.Cruz@et.eurofinsus.com>
Subject: Incoming Perchlorate Samples, 580-143753

Verified Sender: This email is from an internal and/or verified domain which passed security verifications. Remember to still be cautious with personal data and follow company policies.

Hi Sal, Hi Sheri,

So, Sal, I just spoke with Sheri about our instrument that isn't working and has had a part on back order for over 2 months. (Without it we can't run...)

I think these samples shipped last night from Portland, but they're going to have to go to CalScience.

Can we forward those on to them? Or do they have to go back to Portland first??

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-143753-1

Login Number: 143753

List Number: 1

Creator: O'Connell, Jason I

List Source: Eurofins Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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	Preservation labels on samples match COC
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (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: 580-143753-1

Login Number: 143753

List Number: 3

Creator: Khana, Piyush

List Source: Eurofins Calscience

List Creation: 09/17/24 06:57 PM

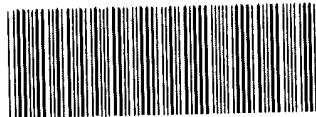
Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	Seal present with no number.
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.6
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.	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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Job _____



580-143753 Field Sheet

Tracking #

746516313881SO / 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 L-11 Corr Factor (+/-) _____ °CIce 1 Wet 1 Gel _____ Other _____Cooler Custody Seal: 2101508

Cooler ID: _____

Temp Observed 0.9 °C Corrected 0.9 °CFrom Temp Blank ☐ Sample ☒**Opening/Processing The Shipment** Yes No NACooler compromised/tampered with? ☐ ☒ ☐Cooler Temperature is acceptable? ☒ ☐ ☐Frozen samples show signs of thaw? ☐ ☐ ☒Initials [Signature] Date 9.12.24**Unpacking/Labeling The Samples** Yes No NAContainers 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, 5850)

Multiphasic samples are not present? ☒ ☐ ☐

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

Initials [Signature] Date 9.12.24

Notes: _____

Trizma Lot #(s): _____

Ammonium

Acetate Lot #(s). _____

Login Completion Yes No NAReceipt Temperature on COC? ☒ ☐ ☐NCM Filed? ☐ ☐ ☒Samples received within hold time? ☐ ☐ ☒Log Release checked in TALS? ☐ ☐ ☒Initials [Signature] Date 9.12.24



ANALYTICAL REPORT

PREPARED FOR

Attn: Avery Soplata
ERM-West
1050 SW 6th Avenue
Suite 1650
Portland, Oregon 97204
Generated 10/3/2024 7:49:30 PM

JOB DESCRIPTION

Arkema - Q3 2024 Groundwater Event

JOB NUMBER

580-143800-1

Eurofins Seattle

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



Generated
10/3/2024 7:49:30 PM

Authorized for release by
Laura Schick, Project Manager
Laura.Schick@et.eurofinsus.com
Designee for
Sheri Cruz, Project Manager I
Sheri.Cruz@et.eurofinsus.com
(253)922-2310



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Case Narrative

Client: ERM-West
Project: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Job ID: 580-143800-1

Eurofins Seattle

Job Narrative 580-143800-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided 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 9/12/2024 12:55 PM. 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 0.5°C.

GC/MS VOA

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: PA-19d-091124 (580-143800-5), PA-30d-091124 (580-143800-6), MWA-56d-091124 (580-143800-7), Dup-02-091124 (580-143800-8), MWA-58d-091124 (580-143800-9), MWA-58d-091124 (580-143800-9[MS]) and MWA-58d-091124 (580-143800-9[MSD]). Elevated reporting limits (RLs) are provided.

Method 8260D: The matrix spike duplicate (MSD) recoveries for analytical batch 580-471920 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 580-471925 contained Benzene and n-Butylbenzene above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8260D_LL: The continuing calibration verification (CCV) associated with batch 580-471925 recovered above the upper control limit for 1,1-Dichloroethene, Methyl tert-butyl ether, 2-Butanone (MEK), trans-1,2-Dichloroethene, Chlorobromomethane, Carbon tetrachloride, 1,1-Dichloropropene, 1,2-Dichloroethane and Dibromomethane. 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-31-091124 (580-143800-11), PA-32i-091124 (580-143800-12) and (CCVIS 580-471925/3).

Method 8260D_LL: The continuing calibration verification (CCV) associated with batch 580-471925 recovered outside acceptance criteria, low biased, for Hexachlorobutadiene. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

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

HPLC/IC

Method 314.0: The following samples were diluted due to the nature of the sample matrix: PA-19d-091124 (580-143800-5), PA-30d-091124 (580-143800-6), PA-31-091124 (580-143800-11) and PA-32i-091124 (580-143800-12). Elevated reporting limits (RLs) are provided.

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

General Chemistry

Method 300.0_28D: Due to the high concentration of chloride, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 580-473571 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

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

Eurofins Seattle

Definitions/Glossary

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
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.

General Chemistry

Qualifier	Qualifier Description
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.

Glossary

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

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: TB-091124-A

Lab Sample ID: 580-143800-1

Date Collected: 09/11/24 00:01

Matrix: Water

Date Received: 09/12/24 12:55

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			09/19/24 01:27	1
Chloromethane	ND		0.50	0.14	ug/L			09/19/24 01:27	1
Vinyl chloride	ND		0.10	0.040	ug/L			09/19/24 01:27	1
Bromomethane	ND		0.50	0.13	ug/L			09/19/24 01:27	1
Chloroethane	ND		0.50	0.24	ug/L			09/19/24 01:27	1
Carbon disulfide	ND		0.40	0.20	ug/L			09/19/24 01:27	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/19/24 01:27	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			09/19/24 01:27	1
Acetone	ND		10	3.1	ug/L			09/19/24 01:27	1
Methylene Chloride	ND		5.0	1.2	ug/L			09/19/24 01:27	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			09/19/24 01:27	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/19/24 01:27	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/19/24 01:27	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			09/19/24 01:27	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/19/24 01:27	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			09/19/24 01:27	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/19/24 01:27	1
Chloroform	ND		0.20	0.030	ug/L			09/19/24 01:27	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			09/19/24 01:27	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/19/24 01:27	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/19/24 01:27	1
Benzene	ND		0.20	0.030	ug/L			09/19/24 01:27	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			09/19/24 01:27	1
Trichloroethene	ND		0.20	0.066	ug/L			09/19/24 01:27	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/19/24 01:27	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/19/24 01:27	1
Dibromomethane	ND		0.20	0.062	ug/L			09/19/24 01:27	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/19/24 01:27	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/19/24 01:27	1
Toluene	ND		0.20	0.050	ug/L			09/19/24 01:27	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/19/24 01:27	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/19/24 01:27	1
Tetrachloroethene	ND		0.24	0.084	ug/L			09/19/24 01:27	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/19/24 01:27	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/19/24 01:27	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/19/24 01:27	1
Chlorobenzene	ND		0.20	0.060	ug/L			09/19/24 01:27	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/19/24 01:27	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/19/24 01:27	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/19/24 01:27	1
o-Xylene	ND		0.50	0.23	ug/L			09/19/24 01:27	1
Styrene	ND		1.0	0.33	ug/L			09/19/24 01:27	1
Bromoform	ND		0.50	0.16	ug/L			09/19/24 01:27	1
Isopropylbenzene	ND		1.0	0.27	ug/L			09/19/24 01:27	1
Bromobenzene	ND		0.20	0.038	ug/L			09/19/24 01:27	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/19/24 01:27	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/19/24 01:27	1
N-Propylbenzene	ND		0.30	0.091	ug/L			09/19/24 01:27	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/19/24 01:27	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: TB-091124-A

Lab Sample ID: 580-143800-1

Date Collected: 09/11/24 00:01

Matrix: Water

Date Received: 09/12/24 12:55

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			09/19/24 01:27	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/19/24 01:27	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/19/24 01:27	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/19/24 01:27	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/19/24 01:27	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/19/24 01:27	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/19/24 01:27	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/19/24 01:27	1
n-Butylbenzene	ND		1.0	0.35	ug/L			09/19/24 01:27	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			09/19/24 01:27	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/19/24 01:27	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/19/24 01:27	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/19/24 01:27	1
Naphthalene	ND		1.5	0.52	ug/L			09/19/24 01:27	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/19/24 01:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120		09/19/24 01:27	1
Dibromofluoromethane (Surr)	100		80 - 120		09/19/24 01:27	1
4-Bromofluorobenzene (Surr)	99		80 - 120		09/19/24 01:27	1
1,2-Dichloroethane-d4 (Surr)	101		80 - 120		09/19/24 01:27	1

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: RB-02-091124

Lab Sample ID: 580-143800-2

Date Collected: 09/11/24 06:00

Matrix: Water

Date Received: 09/12/24 12:55

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			09/19/24 00:17	1
Chloromethane	ND		1.0	0.28	ug/L			09/19/24 00:17	1
Vinyl chloride	ND		1.0	0.22	ug/L			09/19/24 00:17	1
Bromomethane	ND		1.0	0.21	ug/L			09/19/24 00:17	1
Chloroethane	ND		1.0	0.35	ug/L			09/19/24 00:17	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			09/19/24 00:17	1
Carbon disulfide	ND		1.0	0.53	ug/L			09/19/24 00:17	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			09/19/24 00:17	1
Acetone	ND		15	3.2	ug/L			09/19/24 00:17	1
Methylene Chloride	ND		5.0	1.4	ug/L			09/19/24 00:17	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			09/19/24 00:17	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			09/19/24 00:17	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			09/19/24 00:17	1
2-Butanone (MEK)	ND		15	4.7	ug/L			09/19/24 00:17	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			09/19/24 00:17	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			09/19/24 00:17	1
Chlorobromomethane	ND		1.0	0.29	ug/L			09/19/24 00:17	1
Chloroform	ND		1.0	0.26	ug/L			09/19/24 00:17	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			09/19/24 00:17	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			09/19/24 00:17	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			09/19/24 00:17	1
Benzene	ND		1.0	0.24	ug/L			09/19/24 00:17	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			09/19/24 00:17	1
Trichloroethene	ND		1.0	0.26	ug/L			09/19/24 00:17	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			09/19/24 00:17	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/19/24 00:17	1
Dibromomethane	ND		1.0	0.34	ug/L			09/19/24 00:17	1
Bromodichloromethane	ND		1.0	0.29	ug/L			09/19/24 00:17	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			09/19/24 00:17	1
Toluene	ND		1.0	0.39	ug/L			09/19/24 00:17	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			09/19/24 00:17	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			09/19/24 00:17	1
Tetrachloroethene	ND		1.0	0.41	ug/L			09/19/24 00:17	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			09/19/24 00:17	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			09/19/24 00:17	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			09/19/24 00:17	1
Chlorobenzene	ND		1.0	0.44	ug/L			09/19/24 00:17	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			09/19/24 00:17	1
Ethylbenzene	ND		1.0	0.50	ug/L			09/19/24 00:17	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			09/19/24 00:17	1
o-Xylene	ND		1.0	0.39	ug/L			09/19/24 00:17	1
Styrene	ND		1.0	0.53	ug/L			09/19/24 00:17	1
Bromoform	ND		1.0	0.51	ug/L			09/19/24 00:17	1
Isopropylbenzene	ND		1.0	0.44	ug/L			09/19/24 00:17	1
Bromobenzene	ND		1.0	0.43	ug/L			09/19/24 00:17	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			09/19/24 00:17	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			09/19/24 00:17	1
N-Propylbenzene	ND		1.0	0.50	ug/L			09/19/24 00:17	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			09/19/24 00:17	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: RB-02-091124

Lab Sample ID: 580-143800-2

Date Collected: 09/11/24 06:00

Matrix: Water

Date Received: 09/12/24 12:55

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			09/19/24 00:17	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			09/19/24 00:17	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			09/19/24 00:17	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			09/19/24 00:17	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			09/19/24 00:17	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			09/19/24 00:17	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			09/19/24 00:17	1
n-Butylbenzene	ND		1.0	0.44	ug/L			09/19/24 00:17	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			09/19/24 00:17	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			09/19/24 00:17	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			09/19/24 00:17	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			09/19/24 00:17	1
Naphthalene	ND		3.0	0.93	ug/L			09/19/24 00:17	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			09/19/24 00:17	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			09/19/24 00:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 120		09/19/24 00:17	1
1,2-Dichloroethane-d4 (Surr)	100		80 - 120		09/19/24 00:17	1
4-Bromofluorobenzene (Surr)	100		80 - 120		09/19/24 00:17	1
Dibromofluoromethane (Surr)	102		80 - 120		09/19/24 00:17	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			09/17/24 07:59	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			10/02/24 23:05	1

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: PA-22d-091124

Lab Sample ID: 580-143800-3

Date Collected: 09/11/24 07:13

Matrix: Water

Date Received: 09/12/24 12:55

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			09/19/24 03:22	1
Chloromethane	ND		1.0	0.28	ug/L			09/19/24 03:22	1
Vinyl chloride	ND		1.0	0.22	ug/L			09/19/24 03:22	1
Bromomethane	ND		1.0	0.21	ug/L			09/19/24 03:22	1
Chloroethane	ND		1.0	0.35	ug/L			09/19/24 03:22	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			09/19/24 03:22	1
Carbon disulfide	ND		1.0	0.53	ug/L			09/19/24 03:22	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			09/19/24 03:22	1
Acetone	ND		15	3.2	ug/L			09/19/24 03:22	1
Methylene Chloride	ND		5.0	1.4	ug/L			09/19/24 03:22	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			09/19/24 03:22	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			09/19/24 03:22	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			09/19/24 03:22	1
2-Butanone (MEK)	ND		15	4.7	ug/L			09/19/24 03:22	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			09/19/24 03:22	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			09/19/24 03:22	1
Chlorobromomethane	ND		1.0	0.29	ug/L			09/19/24 03:22	1
Chloroform	14		1.0	0.26	ug/L			09/19/24 03:22	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			09/19/24 03:22	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			09/19/24 03:22	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			09/19/24 03:22	1
Benzene	ND		1.0	0.24	ug/L			09/19/24 03:22	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			09/19/24 03:22	1
Trichloroethene	ND		1.0	0.26	ug/L			09/19/24 03:22	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			09/19/24 03:22	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/19/24 03:22	1
Dibromomethane	ND		1.0	0.34	ug/L			09/19/24 03:22	1
Bromodichloromethane	ND		1.0	0.29	ug/L			09/19/24 03:22	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			09/19/24 03:22	1
Toluene	ND		1.0	0.39	ug/L			09/19/24 03:22	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			09/19/24 03:22	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			09/19/24 03:22	1
Tetrachloroethene	ND		1.0	0.41	ug/L			09/19/24 03:22	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			09/19/24 03:22	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			09/19/24 03:22	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			09/19/24 03:22	1
Chlorobenzene	ND		1.0	0.44	ug/L			09/19/24 03:22	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			09/19/24 03:22	1
Ethylbenzene	ND		1.0	0.50	ug/L			09/19/24 03:22	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			09/19/24 03:22	1
o-Xylene	ND		1.0	0.39	ug/L			09/19/24 03:22	1
Styrene	ND		1.0	0.53	ug/L			09/19/24 03:22	1
Bromoform	ND		1.0	0.51	ug/L			09/19/24 03:22	1
Isopropylbenzene	ND		1.0	0.44	ug/L			09/19/24 03:22	1
Bromobenzene	ND		1.0	0.43	ug/L			09/19/24 03:22	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			09/19/24 03:22	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			09/19/24 03:22	1
N-Propylbenzene	ND		1.0	0.50	ug/L			09/19/24 03:22	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			09/19/24 03:22	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: PA-22d-091124

Lab Sample ID: 580-143800-3

Date Collected: 09/11/24 07:13

Matrix: Water

Date Received: 09/12/24 12:55

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			09/19/24 03:22	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			09/19/24 03:22	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			09/19/24 03:22	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			09/19/24 03:22	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			09/19/24 03:22	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			09/19/24 03:22	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			09/19/24 03:22	1
n-Butylbenzene	ND		1.0	0.44	ug/L			09/19/24 03:22	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			09/19/24 03:22	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			09/19/24 03:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			09/19/24 03:22	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			09/19/24 03:22	1
Naphthalene	ND		3.0	0.93	ug/L			09/19/24 03:22	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			09/19/24 03:22	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			09/19/24 03:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 120		09/19/24 03:22	1
1,2-Dichloroethane-d4 (Surr)	107		80 - 120		09/19/24 03:22	1
4-Bromofluorobenzene (Surr)	102		80 - 120		09/19/24 03:22	1
Dibromofluoromethane (Surr)	107		80 - 120		09/19/24 03:22	1

Method: EPA 314.0 - Perchlorate (IC) - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	15000		800	360	ug/L			10/02/24 15:15	400

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	4300		1500	430	mg/L			10/02/24 23:29	1000

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: PA-20d-091124

Lab Sample ID: 580-143800-4

Date Collected: 09/11/24 09:30

Matrix: Water

Date Received: 09/12/24 12:55

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			09/19/24 04:08	1
Chloromethane	ND		1.0	0.28	ug/L			09/19/24 04:08	1
Vinyl chloride	ND		1.0	0.22	ug/L			09/19/24 04:08	1
Bromomethane	ND		1.0	0.21	ug/L			09/19/24 04:08	1
Chloroethane	ND		1.0	0.35	ug/L			09/19/24 04:08	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			09/19/24 04:08	1
Carbon disulfide	ND		1.0	0.53	ug/L			09/19/24 04:08	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			09/19/24 04:08	1
Acetone	ND		15	3.2	ug/L			09/19/24 04:08	1
Methylene Chloride	ND		5.0	1.4	ug/L			09/19/24 04:08	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			09/19/24 04:08	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			09/19/24 04:08	1
1,1-Dichloroethane	0.53	J	1.0	0.22	ug/L			09/19/24 04:08	1
2-Butanone (MEK)	ND		15	4.7	ug/L			09/19/24 04:08	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			09/19/24 04:08	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			09/19/24 04:08	1
Chlorobromomethane	ND		1.0	0.29	ug/L			09/19/24 04:08	1
Chloroform	ND		1.0	0.26	ug/L			09/19/24 04:08	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			09/19/24 04:08	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			09/19/24 04:08	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			09/19/24 04:08	1
Benzene	ND		1.0	0.24	ug/L			09/19/24 04:08	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			09/19/24 04:08	1
Trichloroethene	ND		1.0	0.26	ug/L			09/19/24 04:08	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			09/19/24 04:08	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/19/24 04:08	1
Dibromomethane	ND		1.0	0.34	ug/L			09/19/24 04:08	1
Bromodichloromethane	ND		1.0	0.29	ug/L			09/19/24 04:08	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			09/19/24 04:08	1
Toluene	ND		1.0	0.39	ug/L			09/19/24 04:08	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			09/19/24 04:08	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			09/19/24 04:08	1
Tetrachloroethene	ND		1.0	0.41	ug/L			09/19/24 04:08	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			09/19/24 04:08	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			09/19/24 04:08	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			09/19/24 04:08	1
Chlorobenzene	2.7		1.0	0.44	ug/L			09/19/24 04:08	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			09/19/24 04:08	1
Ethylbenzene	ND		1.0	0.50	ug/L			09/19/24 04:08	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			09/19/24 04:08	1
o-Xylene	ND		1.0	0.39	ug/L			09/19/24 04:08	1
Styrene	ND		1.0	0.53	ug/L			09/19/24 04:08	1
Bromoform	ND		1.0	0.51	ug/L			09/19/24 04:08	1
Isopropylbenzene	ND		1.0	0.44	ug/L			09/19/24 04:08	1
Bromobenzene	ND		1.0	0.43	ug/L			09/19/24 04:08	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			09/19/24 04:08	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			09/19/24 04:08	1
N-Propylbenzene	ND		1.0	0.50	ug/L			09/19/24 04:08	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			09/19/24 04:08	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: PA-20d-091124

Lab Sample ID: 580-143800-4

Date Collected: 09/11/24 09:30

Matrix: Water

Date Received: 09/12/24 12:55

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			09/19/24 04:08	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			09/19/24 04:08	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			09/19/24 04:08	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			09/19/24 04:08	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			09/19/24 04:08	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			09/19/24 04:08	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			09/19/24 04:08	1
n-Butylbenzene	ND		1.0	0.44	ug/L			09/19/24 04:08	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			09/19/24 04:08	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			09/19/24 04:08	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			09/19/24 04:08	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			09/19/24 04:08	1
Naphthalene	ND		3.0	0.93	ug/L			09/19/24 04:08	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			09/19/24 04:08	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			09/19/24 04:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120		09/19/24 04:08	1
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		09/19/24 04:08	1
4-Bromofluorobenzene (Surr)	100		80 - 120		09/19/24 04:08	1
Dibromofluoromethane (Surr)	103		80 - 120		09/19/24 04:08	1

Method: EPA 314.0 - Perchlorate (IC) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	74		2.0	0.91	ug/L			10/01/24 21:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	620		75	22	mg/L			10/03/24 00:17	50

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: PA-19d-091124

Lab Sample ID: 580-143800-5

Date Collected: 09/11/24 11:34

Matrix: Water

Date Received: 09/12/24 12:55

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			09/19/24 06:50	500
Chloromethane	ND		500	140	ug/L			09/19/24 06:50	500
Vinyl chloride	ND		500	110	ug/L			09/19/24 06:50	500
Bromomethane	ND		500	110	ug/L			09/19/24 06:50	500
Chloroethane	ND		500	180	ug/L			09/19/24 06:50	500
Trichlorofluoromethane	ND		500	180	ug/L			09/19/24 06:50	500
Carbon disulfide	ND		500	270	ug/L			09/19/24 06:50	500
1,1-Dichloroethene	ND		500	140	ug/L			09/19/24 06:50	500
Acetone	ND		7500	1600	ug/L			09/19/24 06:50	500
Methylene Chloride	ND		2500	720	ug/L			09/19/24 06:50	500
Methyl tert-butyl ether	ND		500	220	ug/L			09/19/24 06:50	500
trans-1,2-Dichloroethene	ND		500	200	ug/L			09/19/24 06:50	500
1,1-Dichloroethane	ND		500	110	ug/L			09/19/24 06:50	500
2-Butanone (MEK)	ND		7500	2400	ug/L			09/19/24 06:50	500
2,2-Dichloropropane	ND		500	160	ug/L			09/19/24 06:50	500
cis-1,2-Dichloroethene	ND		500	180	ug/L			09/19/24 06:50	500
Chlorobromomethane	ND		500	150	ug/L			09/19/24 06:50	500
Chloroform	ND		500	130	ug/L			09/19/24 06:50	500
1,1,1-Trichloroethane	ND		500	200	ug/L			09/19/24 06:50	500
Carbon tetrachloride	ND		500	150	ug/L			09/19/24 06:50	500
1,1-Dichloropropene	ND		500	150	ug/L			09/19/24 06:50	500
Benzene	ND		500	120	ug/L			09/19/24 06:50	500
1,2-Dichloroethane	ND		500	210	ug/L			09/19/24 06:50	500
Trichloroethene	ND		500	130	ug/L			09/19/24 06:50	500
1,2-Dichloropropane	ND		500	90	ug/L			09/19/24 06:50	500
4-Methyl-2-pentanone (MIBK)	ND		2500	1300	ug/L			09/19/24 06:50	500
Dibromomethane	ND		500	170	ug/L			09/19/24 06:50	500
Bromodichloromethane	ND		500	150	ug/L			09/19/24 06:50	500
cis-1,3-Dichloropropene	ND		500	210	ug/L			09/19/24 06:50	500
Toluene	ND		500	200	ug/L			09/19/24 06:50	500
trans-1,3-Dichloropropene	ND		500	210	ug/L			09/19/24 06:50	500
1,1,2-Trichloroethane	ND		500	120	ug/L			09/19/24 06:50	500
Tetrachloroethene	ND		500	210	ug/L			09/19/24 06:50	500
1,3-Dichloropropane	ND		500	180	ug/L			09/19/24 06:50	500
Chlorodibromomethane	ND		500	220	ug/L			09/19/24 06:50	500
Ethylene Dibromide	ND		500	200	ug/L			09/19/24 06:50	500
Chlorobenzene	6300		500	220	ug/L			09/19/24 06:50	500
1,1,1,2-Tetrachloroethane	ND		500	90	ug/L			09/19/24 06:50	500
Ethylbenzene	ND		500	250	ug/L			09/19/24 06:50	500
m-Xylene & p-Xylene	ND		1000	270	ug/L			09/19/24 06:50	500
o-Xylene	ND		500	200	ug/L			09/19/24 06:50	500
Styrene	ND		500	270	ug/L			09/19/24 06:50	500
Bromoform	ND		500	260	ug/L			09/19/24 06:50	500
Isopropylbenzene	ND		500	220	ug/L			09/19/24 06:50	500
Bromobenzene	ND		500	220	ug/L			09/19/24 06:50	500
1,1,2,2-Tetrachloroethane	ND		500	260	ug/L			09/19/24 06:50	500
1,2,3-Trichloropropane	ND		500	210	ug/L			09/19/24 06:50	500
N-Propylbenzene	ND		500	250	ug/L			09/19/24 06:50	500
2-Chlorotoluene	ND		500	260	ug/L			09/19/24 06:50	500

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: PA-19d-091124

Lab Sample ID: 580-143800-5

Date Collected: 09/11/24 11:34

Matrix: Water

Date Received: 09/12/24 12:55

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			09/19/24 06:50	500
tert-Butylbenzene	ND		1000	290	ug/L			09/19/24 06:50	500
1,2,4-Trimethylbenzene	ND		1500	310	ug/L			09/19/24 06:50	500
sec-Butylbenzene	ND		500	250	ug/L			09/19/24 06:50	500
4-Isopropyltoluene	ND		500	140	ug/L			09/19/24 06:50	500
1,3-Dichlorobenzene	ND		500	240	ug/L			09/19/24 06:50	500
1,4-Dichlorobenzene	ND		500	230	ug/L			09/19/24 06:50	500
n-Butylbenzene	ND		500	220	ug/L			09/19/24 06:50	500
1,2-Dichlorobenzene	ND		500	230	ug/L			09/19/24 06:50	500
1,2-Dibromo-3-Chloropropane	ND		1500	290	ug/L			09/19/24 06:50	500
1,2,4-Trichlorobenzene	ND		500	170	ug/L			09/19/24 06:50	500
Hexachlorobutadiene	ND		1500	400	ug/L			09/19/24 06:50	500
Naphthalene	ND		1500	470	ug/L			09/19/24 06:50	500
1,2,3-Trichlorobenzene	ND		1000	220	ug/L			09/19/24 06:50	500
1,3,5-Trimethylbenzene	ND		500	280	ug/L			09/19/24 06:50	500

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		80 - 120		09/19/24 06:50	500
1,2-Dichloroethane-d4 (Surr)	101		80 - 120		09/19/24 06:50	500
4-Bromofluorobenzene (Surr)	99		80 - 120		09/19/24 06:50	500
Dibromofluoromethane (Surr)	103		80 - 120		09/19/24 06:50	500

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		10	4.5	ug/L			09/26/24 23:29	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	270		15	4.3	mg/L			10/03/24 00:53	10

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: PA-30d-091124

Lab Sample ID: 580-143800-6

Date Collected: 09/11/24 12:35

Matrix: Water

Date Received: 09/12/24 12:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1000	530	ug/L			09/19/24 07:13	1000
Chloromethane	ND		1000	280	ug/L			09/19/24 07:13	1000
Vinyl chloride	ND		1000	220	ug/L			09/19/24 07:13	1000
Bromomethane	ND		1000	210	ug/L			09/19/24 07:13	1000
Chloroethane	ND		1000	350	ug/L			09/19/24 07:13	1000
Trichlorofluoromethane	ND		1000	360	ug/L			09/19/24 07:13	1000
Carbon disulfide	ND		1000	530	ug/L			09/19/24 07:13	1000
1,1-Dichloroethene	ND		1000	280	ug/L			09/19/24 07:13	1000
Acetone	ND		15000	3200	ug/L			09/19/24 07:13	1000
Methylene Chloride	ND		5000	1400	ug/L			09/19/24 07:13	1000
Methyl tert-butyl ether	ND		1000	440	ug/L			09/19/24 07:13	1000
trans-1,2-Dichloroethene	ND		1000	390	ug/L			09/19/24 07:13	1000
1,1-Dichloroethane	ND		1000	220	ug/L			09/19/24 07:13	1000
2-Butanone (MEK)	ND		15000	4700	ug/L			09/19/24 07:13	1000
2,2-Dichloropropane	ND		1000	320	ug/L			09/19/24 07:13	1000
cis-1,2-Dichloroethene	ND		1000	350	ug/L			09/19/24 07:13	1000
Chlorobromomethane	ND		1000	290	ug/L			09/19/24 07:13	1000
Chloroform	ND		1000	260	ug/L			09/19/24 07:13	1000
1,1,1-Trichloroethane	ND		1000	390	ug/L			09/19/24 07:13	1000
Carbon tetrachloride	ND		1000	300	ug/L			09/19/24 07:13	1000
1,1-Dichloropropene	ND		1000	290	ug/L			09/19/24 07:13	1000
Benzene	ND		1000	240	ug/L			09/19/24 07:13	1000
1,2-Dichloroethane	ND		1000	420	ug/L			09/19/24 07:13	1000
Trichloroethene	ND		1000	260	ug/L			09/19/24 07:13	1000
1,2-Dichloropropane	ND		1000	180	ug/L			09/19/24 07:13	1000
4-Methyl-2-pentanone (MIBK)	ND		5000	2500	ug/L			09/19/24 07:13	1000
Dibromomethane	ND		1000	340	ug/L			09/19/24 07:13	1000
Bromodichloromethane	ND		1000	290	ug/L			09/19/24 07:13	1000
cis-1,3-Dichloropropene	ND		1000	420	ug/L			09/19/24 07:13	1000
Toluene	ND		1000	390	ug/L			09/19/24 07:13	1000
trans-1,3-Dichloropropene	ND		1000	410	ug/L			09/19/24 07:13	1000
1,1,2-Trichloroethane	ND		1000	240	ug/L			09/19/24 07:13	1000
Tetrachloroethene	ND		1000	410	ug/L			09/19/24 07:13	1000
1,3-Dichloropropane	ND		1000	350	ug/L			09/19/24 07:13	1000
Chlorodibromomethane	ND		1000	430	ug/L			09/19/24 07:13	1000
Ethylene Dibromide	ND		1000	400	ug/L			09/19/24 07:13	1000
Chlorobenzene	8200		1000	440	ug/L			09/19/24 07:13	1000
1,1,1,2-Tetrachloroethane	ND		1000	180	ug/L			09/19/24 07:13	1000
Ethylbenzene	ND		1000	500	ug/L			09/19/24 07:13	1000
m-Xylene & p-Xylene	ND		2000	530	ug/L			09/19/24 07:13	1000
o-Xylene	ND		1000	390	ug/L			09/19/24 07:13	1000
Styrene	ND		1000	530	ug/L			09/19/24 07:13	1000
Bromoform	ND		1000	510	ug/L			09/19/24 07:13	1000
Isopropylbenzene	ND		1000	440	ug/L			09/19/24 07:13	1000
Bromobenzene	ND		1000	430	ug/L			09/19/24 07:13	1000
1,1,2,2-Tetrachloroethane	ND		1000	520	ug/L			09/19/24 07:13	1000
1,2,3-Trichloropropane	ND		1000	410	ug/L			09/19/24 07:13	1000
N-Propylbenzene	ND		1000	500	ug/L			09/19/24 07:13	1000
2-Chlorotoluene	ND		1000	510	ug/L			09/19/24 07:13	1000

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: PA-30d-091124

Lab Sample ID: 580-143800-6

Date Collected: 09/11/24 12:35

Matrix: Water

Date Received: 09/12/24 12:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1000	380	ug/L			09/19/24 07:13	1000
tert-Butylbenzene	ND		2000	580	ug/L			09/19/24 07:13	1000
1,2,4-Trimethylbenzene	ND		3000	610	ug/L			09/19/24 07:13	1000
sec-Butylbenzene	ND		1000	490	ug/L			09/19/24 07:13	1000
4-Isopropyltoluene	ND		1000	280	ug/L			09/19/24 07:13	1000
1,3-Dichlorobenzene	ND		1000	480	ug/L			09/19/24 07:13	1000
1,4-Dichlorobenzene	ND		1000	460	ug/L			09/19/24 07:13	1000
n-Butylbenzene	ND		1000	440	ug/L			09/19/24 07:13	1000
1,2-Dichlorobenzene	ND		1000	460	ug/L			09/19/24 07:13	1000
1,2-Dibromo-3-Chloropropane	ND		3000	570	ug/L			09/19/24 07:13	1000
1,2,4-Trichlorobenzene	ND		1000	330	ug/L			09/19/24 07:13	1000
Hexachlorobutadiene	ND		3000	790	ug/L			09/19/24 07:13	1000
Naphthalene	ND		3000	930	ug/L			09/19/24 07:13	1000
1,2,3-Trichlorobenzene	ND		2000	430	ug/L			09/19/24 07:13	1000
1,3,5-Trimethylbenzene	ND		1000	550	ug/L			09/19/24 07:13	1000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		80 - 120		09/19/24 07:13	1000
1,2-Dichloroethane-d4 (Surr)	99		80 - 120		09/19/24 07:13	1000
4-Bromofluorobenzene (Surr)	100		80 - 120		09/19/24 07:13	1000
Dibromofluoromethane (Surr)	105		80 - 120		09/19/24 07:13	1000

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		40	18	ug/L			09/26/24 23:48	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	270		15	4.3	mg/L			10/03/24 01:28	10

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: MWA-56d-091124

Lab Sample ID: 580-143800-7

Date Collected: 09/11/24 08:49

Matrix: Water

Date Received: 09/12/24 12:55

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			09/19/24 04:55	10
Chloromethane	ND		10	2.8	ug/L			09/19/24 04:55	10
Vinyl chloride	ND		10	2.2	ug/L			09/19/24 04:55	10
Bromomethane	ND		10	2.1	ug/L			09/19/24 04:55	10
Chloroethane	ND		10	3.5	ug/L			09/19/24 04:55	10
Trichlorofluoromethane	ND		10	3.6	ug/L			09/19/24 04:55	10
Carbon disulfide	ND		10	5.3	ug/L			09/19/24 04:55	10
1,1-Dichloroethene	ND		10	2.8	ug/L			09/19/24 04:55	10
Acetone	32	J	150	32	ug/L			09/19/24 04:55	10
Methylene Chloride	ND		50	14	ug/L			09/19/24 04:55	10
Methyl tert-butyl ether	ND		10	4.4	ug/L			09/19/24 04:55	10
trans-1,2-Dichloroethene	ND		10	3.9	ug/L			09/19/24 04:55	10
1,1-Dichloroethane	ND		10	2.2	ug/L			09/19/24 04:55	10
2-Butanone (MEK)	ND		150	47	ug/L			09/19/24 04:55	10
2,2-Dichloropropane	ND		10	3.2	ug/L			09/19/24 04:55	10
cis-1,2-Dichloroethene	ND		10	3.5	ug/L			09/19/24 04:55	10
Chlorobromomethane	ND		10	2.9	ug/L			09/19/24 04:55	10
Chloroform	150		10	2.6	ug/L			09/19/24 04:55	10
1,1,1-Trichloroethane	ND		10	3.9	ug/L			09/19/24 04:55	10
Carbon tetrachloride	ND		10	3.0	ug/L			09/19/24 04:55	10
1,1-Dichloropropene	ND		10	2.9	ug/L			09/19/24 04:55	10
Benzene	ND		10	2.4	ug/L			09/19/24 04:55	10
1,2-Dichloroethane	ND		10	4.2	ug/L			09/19/24 04:55	10
Trichloroethene	ND		10	2.6	ug/L			09/19/24 04:55	10
1,2-Dichloropropane	ND		10	1.8	ug/L			09/19/24 04:55	10
4-Methyl-2-pentanone (MIBK)	ND		50	25	ug/L			09/19/24 04:55	10
Dibromomethane	ND		10	3.4	ug/L			09/19/24 04:55	10
Bromodichloromethane	ND		10	2.9	ug/L			09/19/24 04:55	10
cis-1,3-Dichloropropene	ND		10	4.2	ug/L			09/19/24 04:55	10
Toluene	ND		10	3.9	ug/L			09/19/24 04:55	10
trans-1,3-Dichloropropene	ND		10	4.1	ug/L			09/19/24 04:55	10
1,1,2-Trichloroethane	ND		10	2.4	ug/L			09/19/24 04:55	10
Tetrachloroethene	ND		10	4.1	ug/L			09/19/24 04:55	10
1,3-Dichloropropane	ND		10	3.5	ug/L			09/19/24 04:55	10
Chlorodibromomethane	ND		10	4.3	ug/L			09/19/24 04:55	10
Ethylene Dibromide	ND		10	4.0	ug/L			09/19/24 04:55	10
Chlorobenzene	ND		10	4.4	ug/L			09/19/24 04:55	10
1,1,1,2-Tetrachloroethane	ND		10	1.8	ug/L			09/19/24 04:55	10
Ethylbenzene	ND		10	5.0	ug/L			09/19/24 04:55	10
m-Xylene & p-Xylene	ND		20	5.3	ug/L			09/19/24 04:55	10
o-Xylene	ND		10	3.9	ug/L			09/19/24 04:55	10
Styrene	ND		10	5.3	ug/L			09/19/24 04:55	10
Bromoform	ND		10	5.1	ug/L			09/19/24 04:55	10
Isopropylbenzene	ND		10	4.4	ug/L			09/19/24 04:55	10
Bromobenzene	ND		10	4.3	ug/L			09/19/24 04:55	10
1,1,2,2-Tetrachloroethane	ND		10	5.2	ug/L			09/19/24 04:55	10
1,2,3-Trichloropropane	ND		10	4.1	ug/L			09/19/24 04:55	10
N-Propylbenzene	ND		10	5.0	ug/L			09/19/24 04:55	10
2-Chlorotoluene	ND		10	5.1	ug/L			09/19/24 04:55	10

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: MWA-56d-091124

Lab Sample ID: 580-143800-7

Date Collected: 09/11/24 08:49

Matrix: Water

Date Received: 09/12/24 12:55

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			09/19/24 04:55	10
tert-Butylbenzene	ND		20	5.8	ug/L			09/19/24 04:55	10
1,2,4-Trimethylbenzene	ND		30	6.1	ug/L			09/19/24 04:55	10
sec-Butylbenzene	ND		10	4.9	ug/L			09/19/24 04:55	10
4-Isopropyltoluene	ND		10	2.8	ug/L			09/19/24 04:55	10
1,3-Dichlorobenzene	ND		10	4.8	ug/L			09/19/24 04:55	10
1,4-Dichlorobenzene	ND		10	4.6	ug/L			09/19/24 04:55	10
n-Butylbenzene	ND		10	4.4	ug/L			09/19/24 04:55	10
1,2-Dichlorobenzene	ND		10	4.6	ug/L			09/19/24 04:55	10
1,2-Dibromo-3-Chloropropane	ND		30	5.7	ug/L			09/19/24 04:55	10
1,2,4-Trichlorobenzene	ND		10	3.3	ug/L			09/19/24 04:55	10
Hexachlorobutadiene	ND		30	7.9	ug/L			09/19/24 04:55	10
Naphthalene	ND		30	9.3	ug/L			09/19/24 04:55	10
1,2,3-Trichlorobenzene	ND		20	4.3	ug/L			09/19/24 04:55	10
1,3,5-Trimethylbenzene	ND		10	5.5	ug/L			09/19/24 04:55	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		80 - 120		09/19/24 04:55	10
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		09/19/24 04:55	10
4-Bromofluorobenzene (Surr)	101		80 - 120		09/19/24 04:55	10
Dibromofluoromethane (Surr)	112		80 - 120		09/19/24 04:55	10

Method: EPA 314.0 - Perchlorate (IC) - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	14000		800	360	ug/L			10/02/24 15:34	400

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	10000		1500	430	mg/L			10/03/24 02:28	1000

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: Dup-02-091124

Lab Sample ID: 580-143800-8

Date Collected: 09/11/24 08:50

Matrix: Water

Date Received: 09/12/24 12:55

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			09/19/24 05:18	10
Chloromethane	ND		10	2.8	ug/L			09/19/24 05:18	10
Vinyl chloride	ND		10	2.2	ug/L			09/19/24 05:18	10
Bromomethane	ND		10	2.1	ug/L			09/19/24 05:18	10
Chloroethane	ND		10	3.5	ug/L			09/19/24 05:18	10
Trichlorofluoromethane	ND		10	3.6	ug/L			09/19/24 05:18	10
Carbon disulfide	ND		10	5.3	ug/L			09/19/24 05:18	10
1,1-Dichloroethene	ND		10	2.8	ug/L			09/19/24 05:18	10
Acetone	ND		150	32	ug/L			09/19/24 05:18	10
Methylene Chloride	ND		50	14	ug/L			09/19/24 05:18	10
Methyl tert-butyl ether	ND		10	4.4	ug/L			09/19/24 05:18	10
trans-1,2-Dichloroethene	ND		10	3.9	ug/L			09/19/24 05:18	10
1,1-Dichloroethane	ND		10	2.2	ug/L			09/19/24 05:18	10
2-Butanone (MEK)	ND		150	47	ug/L			09/19/24 05:18	10
2,2-Dichloropropane	ND		10	3.2	ug/L			09/19/24 05:18	10
cis-1,2-Dichloroethene	ND		10	3.5	ug/L			09/19/24 05:18	10
Chlorobromomethane	ND		10	2.9	ug/L			09/19/24 05:18	10
Chloroform	160		10	2.6	ug/L			09/19/24 05:18	10
1,1,1-Trichloroethane	ND		10	3.9	ug/L			09/19/24 05:18	10
Carbon tetrachloride	ND		10	3.0	ug/L			09/19/24 05:18	10
1,1-Dichloropropene	ND		10	2.9	ug/L			09/19/24 05:18	10
Benzene	ND		10	2.4	ug/L			09/19/24 05:18	10
1,2-Dichloroethane	ND		10	4.2	ug/L			09/19/24 05:18	10
Trichloroethene	ND		10	2.6	ug/L			09/19/24 05:18	10
1,2-Dichloropropane	ND		10	1.8	ug/L			09/19/24 05:18	10
4-Methyl-2-pentanone (MIBK)	ND		50	25	ug/L			09/19/24 05:18	10
Dibromomethane	ND		10	3.4	ug/L			09/19/24 05:18	10
Bromodichloromethane	ND		10	2.9	ug/L			09/19/24 05:18	10
cis-1,3-Dichloropropene	ND		10	4.2	ug/L			09/19/24 05:18	10
Toluene	ND		10	3.9	ug/L			09/19/24 05:18	10
trans-1,3-Dichloropropene	ND		10	4.1	ug/L			09/19/24 05:18	10
1,1,2-Trichloroethane	ND		10	2.4	ug/L			09/19/24 05:18	10
Tetrachloroethene	ND		10	4.1	ug/L			09/19/24 05:18	10
1,3-Dichloropropane	ND		10	3.5	ug/L			09/19/24 05:18	10
Chlorodibromomethane	ND		10	4.3	ug/L			09/19/24 05:18	10
Ethylene Dibromide	ND		10	4.0	ug/L			09/19/24 05:18	10
Chlorobenzene	ND		10	4.4	ug/L			09/19/24 05:18	10
1,1,1,2-Tetrachloroethane	ND		10	1.8	ug/L			09/19/24 05:18	10
Ethylbenzene	ND		10	5.0	ug/L			09/19/24 05:18	10
m-Xylene & p-Xylene	ND		20	5.3	ug/L			09/19/24 05:18	10
o-Xylene	ND		10	3.9	ug/L			09/19/24 05:18	10
Styrene	ND		10	5.3	ug/L			09/19/24 05:18	10
Bromoform	ND		10	5.1	ug/L			09/19/24 05:18	10
Isopropylbenzene	ND		10	4.4	ug/L			09/19/24 05:18	10
Bromobenzene	ND		10	4.3	ug/L			09/19/24 05:18	10
1,1,2,2-Tetrachloroethane	ND		10	5.2	ug/L			09/19/24 05:18	10
1,2,3-Trichloropropane	ND		10	4.1	ug/L			09/19/24 05:18	10
N-Propylbenzene	ND		10	5.0	ug/L			09/19/24 05:18	10
2-Chlorotoluene	ND		10	5.1	ug/L			09/19/24 05:18	10

Eurofins Seattle

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: Dup-02-091124

Lab Sample ID: 580-143800-8

Date Collected: 09/11/24 08:50

Matrix: Water

Date Received: 09/12/24 12:55

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			09/19/24 05:18	10
tert-Butylbenzene	ND		20	5.8	ug/L			09/19/24 05:18	10
1,2,4-Trimethylbenzene	ND		30	6.1	ug/L			09/19/24 05:18	10
sec-Butylbenzene	ND		10	4.9	ug/L			09/19/24 05:18	10
4-Isopropyltoluene	ND		10	2.8	ug/L			09/19/24 05:18	10
1,3-Dichlorobenzene	ND		10	4.8	ug/L			09/19/24 05:18	10
1,4-Dichlorobenzene	ND		10	4.6	ug/L			09/19/24 05:18	10
n-Butylbenzene	ND		10	4.4	ug/L			09/19/24 05:18	10
1,2-Dichlorobenzene	ND		10	4.6	ug/L			09/19/24 05:18	10
1,2-Dibromo-3-Chloropropane	ND		30	5.7	ug/L			09/19/24 05:18	10
1,2,4-Trichlorobenzene	ND		10	3.3	ug/L			09/19/24 05:18	10
Hexachlorobutadiene	ND		30	7.9	ug/L			09/19/24 05:18	10
Naphthalene	ND		30	9.3	ug/L			09/19/24 05:18	10
1,2,3-Trichlorobenzene	ND		20	4.3	ug/L			09/19/24 05:18	10
1,3,5-Trimethylbenzene	ND		10	5.5	ug/L			09/19/24 05:18	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120		09/19/24 05:18	10
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		09/19/24 05:18	10
4-Bromofluorobenzene (Surr)	101		80 - 120		09/19/24 05:18	10
Dibromofluoromethane (Surr)	111		80 - 120		09/19/24 05:18	10

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	19000		2000	910	ug/L			09/17/24 16:51	1000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	11000		1500	430	mg/L			10/03/24 02:52	1000

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: MWA-58d-091124

Lab Sample ID: 580-143800-9

Date Collected: 09/11/24 07:14

Matrix: Water

Date Received: 09/12/24 12:55

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			09/19/24 05:41	10
Chloromethane	ND		10	2.8	ug/L			09/19/24 05:41	10
Vinyl chloride	ND		10	2.2	ug/L			09/19/24 05:41	10
Bromomethane	ND		10	2.1	ug/L			09/19/24 05:41	10
Chloroethane	ND		10	3.5	ug/L			09/19/24 05:41	10
Trichlorofluoromethane	ND		10	3.6	ug/L			09/19/24 05:41	10
Carbon disulfide	ND		10	5.3	ug/L			09/19/24 05:41	10
1,1-Dichloroethene	ND		10	2.8	ug/L			09/19/24 05:41	10
Acetone	39	J	150	32	ug/L			09/19/24 05:41	10
Methylene Chloride	ND		50	14	ug/L			09/19/24 05:41	10
Methyl tert-butyl ether	ND		10	4.4	ug/L			09/19/24 05:41	10
trans-1,2-Dichloroethene	ND		10	3.9	ug/L			09/19/24 05:41	10
1,1-Dichloroethane	ND		10	2.2	ug/L			09/19/24 05:41	10
2-Butanone (MEK)	ND		150	47	ug/L			09/19/24 05:41	10
2,2-Dichloropropane	ND		10	3.2	ug/L			09/19/24 05:41	10
cis-1,2-Dichloroethene	ND		10	3.5	ug/L			09/19/24 05:41	10
Chlorobromomethane	ND		10	2.9	ug/L			09/19/24 05:41	10
Chloroform	200	F1	10	2.6	ug/L			09/19/24 05:41	10
1,1,1-Trichloroethane	ND		10	3.9	ug/L			09/19/24 05:41	10
Carbon tetrachloride	ND		10	3.0	ug/L			09/19/24 05:41	10
1,1-Dichloropropene	ND		10	2.9	ug/L			09/19/24 05:41	10
Benzene	ND		10	2.4	ug/L			09/19/24 05:41	10
1,2-Dichloroethane	ND		10	4.2	ug/L			09/19/24 05:41	10
Trichloroethene	ND		10	2.6	ug/L			09/19/24 05:41	10
1,2-Dichloropropane	ND		10	1.8	ug/L			09/19/24 05:41	10
4-Methyl-2-pentanone (MIBK)	ND		50	25	ug/L			09/19/24 05:41	10
Dibromomethane	ND		10	3.4	ug/L			09/19/24 05:41	10
Bromodichloromethane	ND		10	2.9	ug/L			09/19/24 05:41	10
cis-1,3-Dichloropropene	ND		10	4.2	ug/L			09/19/24 05:41	10
Toluene	ND		10	3.9	ug/L			09/19/24 05:41	10
trans-1,3-Dichloropropene	ND		10	4.1	ug/L			09/19/24 05:41	10
1,1,2-Trichloroethane	ND		10	2.4	ug/L			09/19/24 05:41	10
Tetrachloroethene	ND		10	4.1	ug/L			09/19/24 05:41	10
1,3-Dichloropropane	ND		10	3.5	ug/L			09/19/24 05:41	10
Chlorodibromomethane	ND		10	4.3	ug/L			09/19/24 05:41	10
Ethylene Dibromide	ND		10	4.0	ug/L			09/19/24 05:41	10
Chlorobenzene	ND		10	4.4	ug/L			09/19/24 05:41	10
1,1,1,2-Tetrachloroethane	ND		10	1.8	ug/L			09/19/24 05:41	10
Ethylbenzene	ND		10	5.0	ug/L			09/19/24 05:41	10
m-Xylene & p-Xylene	ND		20	5.3	ug/L			09/19/24 05:41	10
o-Xylene	ND		10	3.9	ug/L			09/19/24 05:41	10
Styrene	ND		10	5.3	ug/L			09/19/24 05:41	10
Bromoform	ND		10	5.1	ug/L			09/19/24 05:41	10
Isopropylbenzene	ND	F1	10	4.4	ug/L			09/19/24 05:41	10
Bromobenzene	ND		10	4.3	ug/L			09/19/24 05:41	10
1,1,2,2-Tetrachloroethane	ND		10	5.2	ug/L			09/19/24 05:41	10
1,2,3-Trichloropropane	ND		10	4.1	ug/L			09/19/24 05:41	10
N-Propylbenzene	ND		10	5.0	ug/L			09/19/24 05:41	10
2-Chlorotoluene	ND		10	5.1	ug/L			09/19/24 05:41	10

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: MWA-58d-091124

Lab Sample ID: 580-143800-9

Date Collected: 09/11/24 07:14

Matrix: Water

Date Received: 09/12/24 12:55

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			09/19/24 05:41	10
tert-Butylbenzene	ND		20	5.8	ug/L			09/19/24 05:41	10
1,2,4-Trimethylbenzene	ND		30	6.1	ug/L			09/19/24 05:41	10
sec-Butylbenzene	ND		10	4.9	ug/L			09/19/24 05:41	10
4-Isopropyltoluene	ND		10	2.8	ug/L			09/19/24 05:41	10
1,3-Dichlorobenzene	ND		10	4.8	ug/L			09/19/24 05:41	10
1,4-Dichlorobenzene	ND		10	4.6	ug/L			09/19/24 05:41	10
n-Butylbenzene	ND		10	4.4	ug/L			09/19/24 05:41	10
1,2-Dichlorobenzene	ND		10	4.6	ug/L			09/19/24 05:41	10
1,2-Dibromo-3-Chloropropane	ND		30	5.7	ug/L			09/19/24 05:41	10
1,2,4-Trichlorobenzene	ND		10	3.3	ug/L			09/19/24 05:41	10
Hexachlorobutadiene	ND		30	7.9	ug/L			09/19/24 05:41	10
Naphthalene	ND		30	9.3	ug/L			09/19/24 05:41	10
1,2,3-Trichlorobenzene	ND		20	4.3	ug/L			09/19/24 05:41	10
1,3,5-Trimethylbenzene	ND		10	5.5	ug/L			09/19/24 05:41	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 120		09/19/24 05:41	10
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		09/19/24 05:41	10
4-Bromofluorobenzene (Surr)	100		80 - 120		09/19/24 05:41	10
Dibromofluoromethane (Surr)	109		80 - 120		09/19/24 05:41	10

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	54000		4000	1800	ug/L			09/17/24 09:22	2000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	17000		1500	430	mg/L			10/03/24 03:40	1000

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: MWA-11i(d)-091124

Lab Sample ID: 580-143800-10

Date Collected: 09/11/24 10:26

Matrix: Water

Date Received: 09/12/24 12:55

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			09/19/24 03:45	1
Chloromethane	ND		0.50	0.14	ug/L			09/19/24 03:45	1
Vinyl chloride	ND		0.10	0.040	ug/L			09/19/24 03:45	1
Bromomethane	ND		0.50	0.13	ug/L			09/19/24 03:45	1
Chloroethane	ND		0.50	0.24	ug/L			09/19/24 03:45	1
Carbon disulfide	ND		0.40	0.20	ug/L			09/19/24 03:45	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/19/24 03:45	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			09/19/24 03:45	1
Acetone	ND		10	3.1	ug/L			09/19/24 03:45	1
Methylene Chloride	ND		5.0	1.2	ug/L			09/19/24 03:45	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			09/19/24 03:45	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/19/24 03:45	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/19/24 03:45	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			09/19/24 03:45	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/19/24 03:45	1
cis-1,2-Dichloroethene	0.12	J	0.20	0.055	ug/L			09/19/24 03:45	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/19/24 03:45	1
Chloroform	ND		0.20	0.030	ug/L			09/19/24 03:45	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			09/19/24 03:45	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/19/24 03:45	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/19/24 03:45	1
Benzene	ND		0.20	0.030	ug/L			09/19/24 03:45	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			09/19/24 03:45	1
Trichloroethene	ND		0.20	0.066	ug/L			09/19/24 03:45	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/19/24 03:45	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/19/24 03:45	1
Dibromomethane	ND		0.20	0.062	ug/L			09/19/24 03:45	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/19/24 03:45	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/19/24 03:45	1
Toluene	ND		0.20	0.050	ug/L			09/19/24 03:45	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/19/24 03:45	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/19/24 03:45	1
Tetrachloroethene	ND		0.24	0.084	ug/L			09/19/24 03:45	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/19/24 03:45	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/19/24 03:45	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/19/24 03:45	1
Chlorobenzene	ND		0.20	0.060	ug/L			09/19/24 03:45	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/19/24 03:45	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/19/24 03:45	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/19/24 03:45	1
o-Xylene	ND		0.50	0.23	ug/L			09/19/24 03:45	1
Styrene	ND		1.0	0.33	ug/L			09/19/24 03:45	1
Bromoform	ND		0.50	0.16	ug/L			09/19/24 03:45	1
Isopropylbenzene	ND		1.0	0.27	ug/L			09/19/24 03:45	1
Bromobenzene	ND		0.20	0.038	ug/L			09/19/24 03:45	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/19/24 03:45	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/19/24 03:45	1
N-Propylbenzene	ND		0.30	0.091	ug/L			09/19/24 03:45	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/19/24 03:45	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: MWA-11i(d)-091124

Lab Sample ID: 580-143800-10

Date Collected: 09/11/24 10:26

Matrix: Water

Date Received: 09/12/24 12:55

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			09/19/24 03:45	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/19/24 03:45	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/19/24 03:45	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/19/24 03:45	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/19/24 03:45	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/19/24 03:45	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/19/24 03:45	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/19/24 03:45	1
n-Butylbenzene	ND		1.0	0.35	ug/L			09/19/24 03:45	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			09/19/24 03:45	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/19/24 03:45	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/19/24 03:45	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/19/24 03:45	1
Naphthalene	ND		1.5	0.52	ug/L			09/19/24 03:45	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/19/24 03:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 120		09/19/24 03:45	1
Dibromofluoromethane (Surr)	106		80 - 120		09/19/24 03:45	1
4-Bromofluorobenzene (Surr)	99		80 - 120		09/19/24 03:45	1
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		09/19/24 03:45	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			09/27/24 00:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	530		75	22	mg/L			10/03/24 04:51	50

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: PA-31-091124

Lab Sample ID: 580-143800-11

Date Collected: 09/11/24 11:56

Matrix: Water

Date Received: 09/12/24 12:55

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			09/19/24 11:18	1
Chloromethane	0.30	J	0.50	0.14	ug/L			09/19/24 11:18	1
Vinyl chloride	ND		0.10	0.040	ug/L			09/19/24 11:18	1
Bromomethane	ND		0.50	0.13	ug/L			09/19/24 11:18	1
Chloroethane	ND		0.50	0.24	ug/L			09/19/24 11:18	1
Carbon disulfide	ND		0.40	0.20	ug/L			09/19/24 11:18	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/19/24 11:18	1
1,1-Dichloroethene	0.80		0.20	0.035	ug/L			09/19/24 11:18	1
Acetone	ND		10	3.1	ug/L			09/19/24 11:18	1
Methylene Chloride	ND		5.0	1.2	ug/L			09/19/24 11:18	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			09/19/24 11:18	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/19/24 11:18	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/19/24 11:18	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/19/24 11:18	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			09/19/24 11:18	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/19/24 11:18	1
Chloroform	0.045	J	0.20	0.030	ug/L			09/19/24 11:18	1
1,1,1-Trichloroethane	0.22		0.20	0.025	ug/L			09/19/24 11:18	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/19/24 11:18	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/19/24 11:18	1
Benzene	0.18	J B	0.20	0.030	ug/L			09/19/24 11:18	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			09/19/24 11:18	1
Trichloroethene	0.069	J	0.20	0.066	ug/L			09/19/24 11:18	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/19/24 11:18	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/19/24 11:18	1
Dibromomethane	ND		0.20	0.062	ug/L			09/19/24 11:18	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/19/24 11:18	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/19/24 11:18	1
Toluene	ND		0.20	0.050	ug/L			09/19/24 11:18	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/19/24 11:18	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/19/24 11:18	1
Tetrachloroethene	0.16	J	0.24	0.084	ug/L			09/19/24 11:18	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/19/24 11:18	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/19/24 11:18	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/19/24 11:18	1
Chlorobenzene	ND		0.20	0.060	ug/L			09/19/24 11:18	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/19/24 11:18	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/19/24 11:18	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/19/24 11:18	1
o-Xylene	ND		0.50	0.23	ug/L			09/19/24 11:18	1
Styrene	ND		1.0	0.33	ug/L			09/19/24 11:18	1
Bromoform	ND		0.50	0.16	ug/L			09/19/24 11:18	1
Isopropylbenzene	ND		1.0	0.27	ug/L			09/19/24 11:18	1
Bromobenzene	ND		0.20	0.038	ug/L			09/19/24 11:18	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/19/24 11:18	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/19/24 11:18	1
N-Propylbenzene	ND		0.30	0.091	ug/L			09/19/24 11:18	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/19/24 11:18	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			09/19/24 11:18	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: PA-31-091124

Lab Sample ID: 580-143800-11

Date Collected: 09/11/24 11:56

Matrix: Water

Date Received: 09/12/24 12:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/19/24 11:18	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/19/24 11:18	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/19/24 11:18	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/19/24 11:18	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/19/24 11:18	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/19/24 11:18	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/19/24 11:18	1
n-Butylbenzene	ND		1.0	0.35	ug/L			09/19/24 11:18	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			09/19/24 11:18	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/19/24 11:18	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/19/24 11:18	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/19/24 11:18	1
Naphthalene	ND		1.5	0.52	ug/L			09/19/24 11:18	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/19/24 11:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	89		80 - 120		09/19/24 11:18	1
Dibromofluoromethane (Surr)	110		80 - 120		09/19/24 11:18	1
4-Bromofluorobenzene (Surr)	105		80 - 120		09/19/24 11:18	1
1,2-Dichloroethane-d4 (Surr)	107		80 - 120		09/19/24 11:18	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	0.21		0.20	0.064	ug/L			09/20/24 00:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 120		09/20/24 00:47	1
Dibromofluoromethane (Surr)	106		80 - 120		09/20/24 00:47	1
4-Bromofluorobenzene (Surr)	101		80 - 120		09/20/24 00:47	1
1,2-Dichloroethane-d4 (Surr)	106		80 - 120		09/20/24 00:47	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		10	4.5	ug/L			09/27/24 00:44	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	8.3		1.5	0.43	mg/L			10/03/24 05:15	1

Eurofins Seattle

Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: PA-32i-091124

Lab Sample ID: 580-143800-12

Date Collected: 09/11/24 12:45

Matrix: Water

Date Received: 09/12/24 12:55

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			09/19/24 10:54	1
Chloromethane	0.28	J	0.50	0.14	ug/L			09/19/24 10:54	1
Vinyl chloride	0.23		0.10	0.040	ug/L			09/19/24 10:54	1
Bromomethane	ND		0.50	0.13	ug/L			09/19/24 10:54	1
Chloroethane	0.42	J	0.50	0.24	ug/L			09/19/24 10:54	1
Carbon disulfide	ND		0.40	0.20	ug/L			09/19/24 10:54	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/19/24 10:54	1
1,1-Dichloroethene	0.065	J	0.20	0.035	ug/L			09/19/24 10:54	1
Acetone	ND		10	3.1	ug/L			09/19/24 10:54	1
Methylene Chloride	ND		5.0	1.2	ug/L			09/19/24 10:54	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			09/19/24 10:54	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/19/24 10:54	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/19/24 10:54	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/19/24 10:54	1
cis-1,2-Dichloroethene	0.094	J	0.20	0.055	ug/L			09/19/24 10:54	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/19/24 10:54	1
Chloroform	ND		0.20	0.030	ug/L			09/19/24 10:54	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			09/19/24 10:54	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/19/24 10:54	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/19/24 10:54	1
Benzene	0.20	B	0.20	0.030	ug/L			09/19/24 10:54	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			09/19/24 10:54	1
Trichloroethene	ND		0.20	0.066	ug/L			09/19/24 10:54	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/19/24 10:54	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/19/24 10:54	1
Dibromomethane	ND		0.20	0.062	ug/L			09/19/24 10:54	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/19/24 10:54	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/19/24 10:54	1
Toluene	ND		0.20	0.050	ug/L			09/19/24 10:54	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/19/24 10:54	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/19/24 10:54	1
Tetrachloroethene	ND		0.24	0.084	ug/L			09/19/24 10:54	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/19/24 10:54	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/19/24 10:54	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/19/24 10:54	1
Chlorobenzene	0.21		0.20	0.060	ug/L			09/19/24 10:54	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/19/24 10:54	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/19/24 10:54	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/19/24 10:54	1
o-Xylene	ND		0.50	0.23	ug/L			09/19/24 10:54	1
Styrene	ND		1.0	0.33	ug/L			09/19/24 10:54	1
Bromoform	ND		0.50	0.16	ug/L			09/19/24 10:54	1
Isopropylbenzene	ND		1.0	0.27	ug/L			09/19/24 10:54	1
Bromobenzene	ND		0.20	0.038	ug/L			09/19/24 10:54	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/19/24 10:54	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/19/24 10:54	1
N-Propylbenzene	ND		0.30	0.091	ug/L			09/19/24 10:54	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/19/24 10:54	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			09/19/24 10:54	1

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Client Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: PA-32i-091124

Lab Sample ID: 580-143800-12

Date Collected: 09/11/24 12:45

Matrix: Water

Date Received: 09/12/24 12:55

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/19/24 10:54	1
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/19/24 10:54	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/19/24 10:54	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/19/24 10:54	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/19/24 10:54	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/19/24 10:54	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/19/24 10:54	1
n-Butylbenzene	ND		1.0	0.35	ug/L			09/19/24 10:54	1
1,2-Dichlorobenzene	0.20	J	0.30	0.038	ug/L			09/19/24 10:54	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/19/24 10:54	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/19/24 10:54	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/19/24 10:54	1
Naphthalene	ND		1.5	0.52	ug/L			09/19/24 10:54	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/19/24 10:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	89		80 - 120		09/19/24 10:54	1
Dibromofluoromethane (Surr)	110		80 - 120		09/19/24 10:54	1
4-Bromofluorobenzene (Surr)	102		80 - 120		09/19/24 10:54	1
1,2-Dichloroethane-d4 (Surr)	110		80 - 120		09/19/24 10:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	0.084	J	0.20	0.064	ug/L			09/20/24 01:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120		09/20/24 01:34	1
Dibromofluoromethane (Surr)	105		80 - 120		09/20/24 01:34	1
4-Bromofluorobenzene (Surr)	100		80 - 120		09/20/24 01:34	1
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		09/20/24 01:34	1

Method: EPA 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		40	18	ug/L			09/27/24 01:59	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	88		1.5	0.43	mg/L			10/03/24 05:27	1

QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

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

Lab Sample ID: MB 580-471920/7

Matrix: Water

Analysis Batch: 471920

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			09/18/24 23:54	1
Chloromethane	ND		1.0	0.28	ug/L			09/18/24 23:54	1
Vinyl chloride	ND		1.0	0.22	ug/L			09/18/24 23:54	1
Bromomethane	ND		1.0	0.21	ug/L			09/18/24 23:54	1
Chloroethane	ND		1.0	0.35	ug/L			09/18/24 23:54	1
Trichlorofluoromethane	ND		1.0	0.36	ug/L			09/18/24 23:54	1
Carbon disulfide	ND		1.0	0.53	ug/L			09/18/24 23:54	1
1,1-Dichloroethene	ND		1.0	0.28	ug/L			09/18/24 23:54	1
Acetone	ND		15	3.2	ug/L			09/18/24 23:54	1
Methylene Chloride	ND		5.0	1.4	ug/L			09/18/24 23:54	1
Methyl tert-butyl ether	ND		1.0	0.44	ug/L			09/18/24 23:54	1
trans-1,2-Dichloroethene	ND		1.0	0.39	ug/L			09/18/24 23:54	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			09/18/24 23:54	1
2-Butanone (MEK)	ND		15	4.7	ug/L			09/18/24 23:54	1
2,2-Dichloropropane	ND		1.0	0.32	ug/L			09/18/24 23:54	1
cis-1,2-Dichloroethene	ND		1.0	0.35	ug/L			09/18/24 23:54	1
Chlorobromomethane	ND		1.0	0.29	ug/L			09/18/24 23:54	1
Chloroform	ND		1.0	0.26	ug/L			09/18/24 23:54	1
1,1,1-Trichloroethane	ND		1.0	0.39	ug/L			09/18/24 23:54	1
Carbon tetrachloride	ND		1.0	0.30	ug/L			09/18/24 23:54	1
1,1-Dichloropropene	ND		1.0	0.29	ug/L			09/18/24 23:54	1
Benzene	ND		1.0	0.24	ug/L			09/18/24 23:54	1
1,2-Dichloroethane	ND		1.0	0.42	ug/L			09/18/24 23:54	1
Trichloroethene	ND		1.0	0.26	ug/L			09/18/24 23:54	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			09/18/24 23:54	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/L			09/18/24 23:54	1
Dibromomethane	ND		1.0	0.34	ug/L			09/18/24 23:54	1
Bromodichloromethane	ND		1.0	0.29	ug/L			09/18/24 23:54	1
Dichlorobromomethane	ND		1.0	0.29	ug/L			09/18/24 23:54	1
cis-1,3-Dichloropropene	ND		1.0	0.42	ug/L			09/18/24 23:54	1
Toluene	ND		1.0	0.39	ug/L			09/18/24 23:54	1
trans-1,3-Dichloropropene	ND		1.0	0.41	ug/L			09/18/24 23:54	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			09/18/24 23:54	1
Tetrachloroethene	ND		1.0	0.41	ug/L			09/18/24 23:54	1
1,3-Dichloropropane	ND		1.0	0.35	ug/L			09/18/24 23:54	1
Chlorodibromomethane	ND		1.0	0.43	ug/L			09/18/24 23:54	1
Ethylene Dibromide	ND		1.0	0.40	ug/L			09/18/24 23:54	1
Chlorobenzene	ND		1.0	0.44	ug/L			09/18/24 23:54	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.18	ug/L			09/18/24 23:54	1
Ethylbenzene	ND		1.0	0.50	ug/L			09/18/24 23:54	1
m-Xylene & p-Xylene	ND		2.0	0.53	ug/L			09/18/24 23:54	1
o-Xylene	ND		1.0	0.39	ug/L			09/18/24 23:54	1
Styrene	ND		1.0	0.53	ug/L			09/18/24 23:54	1
Bromoform	ND		1.0	0.51	ug/L			09/18/24 23:54	1
Isopropylbenzene	ND		1.0	0.44	ug/L			09/18/24 23:54	1
Bromobenzene	ND		1.0	0.43	ug/L			09/18/24 23:54	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.52	ug/L			09/18/24 23:54	1
1,2,3-Trichloropropane	ND		1.0	0.41	ug/L			09/18/24 23:54	1

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

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

Lab Sample ID: MB 580-471920/7

Matrix: Water

Analysis Batch: 471920

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		1.0	0.50	ug/L			09/18/24 23:54	1
2-Chlorotoluene	ND		1.0	0.51	ug/L			09/18/24 23:54	1
4-Chlorotoluene	ND		1.0	0.38	ug/L			09/18/24 23:54	1
tert-Butylbenzene	ND		2.0	0.58	ug/L			09/18/24 23:54	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			09/18/24 23:54	1
sec-Butylbenzene	ND		1.0	0.49	ug/L			09/18/24 23:54	1
4-Isopropyltoluene	ND		1.0	0.28	ug/L			09/18/24 23:54	1
1,3-Dichlorobenzene	ND		1.0	0.48	ug/L			09/18/24 23:54	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			09/18/24 23:54	1
n-Butylbenzene	ND		1.0	0.44	ug/L			09/18/24 23:54	1
1,2-Dichlorobenzene	ND		1.0	0.46	ug/L			09/18/24 23:54	1
1,2-Dibromo-3-Chloropropane	ND		3.0	0.57	ug/L			09/18/24 23:54	1
1,2,4-Trichlorobenzene	ND		1.0	0.33	ug/L			09/18/24 23:54	1
Hexachlorobutadiene	ND		3.0	0.79	ug/L			09/18/24 23:54	1
Naphthalene	ND		3.0	0.93	ug/L			09/18/24 23:54	1
1,2,3-Trichlorobenzene	ND		2.0	0.43	ug/L			09/18/24 23:54	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			09/18/24 23:54	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 120		09/18/24 23:54	1
1,2-Dichloroethane-d4 (Surr)	101		80 - 120		09/18/24 23:54	1
4-Bromofluorobenzene (Surr)	100		80 - 120		09/18/24 23:54	1
Dibromofluoromethane (Surr)	101		80 - 120		09/18/24 23:54	1

Lab Sample ID: LCS 580-471920/4

Matrix: Water

Analysis Batch: 471920

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	5.03		ug/L		101	20 - 150
Chloromethane	5.00	5.29		ug/L		106	25 - 150
Vinyl chloride	5.00	5.83		ug/L		117	31 - 150
Bromomethane	5.00	5.85		ug/L		117	36 - 150
Chloroethane	5.00	5.07		ug/L		101	38 - 150
Trichlorofluoromethane	5.00	4.66		ug/L		93	45 - 148
Carbon disulfide	5.00	3.94		ug/L		79	63 - 134
1,1-Dichloroethene	5.00	4.03		ug/L		81	70 - 129
Acetone	25.0	25.1		ug/L		100	44 - 150
Methylene Chloride	5.00	4.94	J	ug/L		99	77 - 125
Methyl tert-butyl ether	5.00	5.00		ug/L		100	72 - 120
trans-1,2-Dichloroethene	5.00	4.49		ug/L		90	75 - 120
1,1-Dichloroethane	5.00	4.59		ug/L		92	80 - 120
2-Butanone (MEK)	25.0	22.7		ug/L		91	65 - 137
2,2-Dichloropropane	5.00	4.48		ug/L		90	66 - 126
cis-1,2-Dichloroethene	5.00	4.51		ug/L		90	76 - 120
Chlorobromomethane	5.00	4.89		ug/L		98	78 - 120
Chloroform	5.00	4.60		ug/L		92	78 - 127
1,1,1-Trichloroethane	5.00	4.80		ug/L		96	74 - 130

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

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

Lab Sample ID: LCS 580-471920/4

Matrix: Water

Analysis Batch: 471920

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon tetrachloride	5.00	4.21		ug/L		84	72 - 129
1,1-Dichloropropene	5.00	4.38		ug/L		88	74 - 120
Benzene	5.00	4.72		ug/L		94	80 - 122
1,2-Dichloroethane	5.00	4.37		ug/L		87	69 - 126
Trichloroethene	5.00	4.72		ug/L		94	80 - 125
1,2-Dichloropropane	5.00	4.75		ug/L		95	80 - 120
4-Methyl-2-pentanone (MIBK)	25.0	24.1		ug/L		96	59 - 141
Dibromomethane	5.00	4.78		ug/L		96	80 - 120
Bromodichloromethane	5.00	4.90		ug/L		98	75 - 124
Dichlorobromomethane	5.00	4.90		ug/L		98	75 - 124
cis-1,3-Dichloropropene	5.00	4.78		ug/L		96	77 - 120
Toluene	5.00	4.61		ug/L		92	80 - 120
trans-1,3-Dichloropropene	5.00	5.08		ug/L		102	76 - 122
1,1,2-Trichloroethane	5.00	4.34		ug/L		87	80 - 121
Tetrachloroethene	5.00	4.42		ug/L		88	76 - 125
1,3-Dichloropropane	5.00	5.01		ug/L		100	79 - 120
Chlorodibromomethane	5.00	4.88		ug/L		98	73 - 125
Ethylene Dibromide	5.00	4.50		ug/L		90	79 - 126
Chlorobenzene	5.00	4.61		ug/L		92	80 - 120
1,1,1,2-Tetrachloroethane	5.00	4.50		ug/L		90	79 - 120
Ethylbenzene	5.00	4.62		ug/L		92	80 - 120
m-Xylene & p-Xylene	5.00	4.74		ug/L		95	80 - 120
o-Xylene	5.00	4.57		ug/L		91	80 - 120
Styrene	5.00	4.40		ug/L		88	76 - 122
Bromoform	5.00	4.84		ug/L		97	56 - 139
Isopropylbenzene	5.00	5.23		ug/L		105	80 - 123
Bromobenzene	5.00	4.64		ug/L		93	80 - 120
1,1,2,2-Tetrachloroethane	5.00	4.93		ug/L		99	74 - 124
1,2,3-Trichloropropane	5.00	4.72		ug/L		94	76 - 124
N-Propylbenzene	5.00	4.80		ug/L		96	80 - 122
2-Chlorotoluene	5.00	4.68		ug/L		94	80 - 120
4-Chlorotoluene	5.00	4.64		ug/L		93	73 - 129
tert-Butylbenzene	5.00	4.53		ug/L		91	75 - 123
1,2,4-Trimethylbenzene	5.00	4.32		ug/L		86	80 - 120
sec-Butylbenzene	5.00	4.39		ug/L		88	78 - 122
4-Isopropyltoluene	5.00	4.27		ug/L		85	77 - 126
1,3-Dichlorobenzene	5.00	4.83		ug/L		97	77 - 127
1,4-Dichlorobenzene	5.00	4.65		ug/L		93	80 - 120
n-Butylbenzene	5.00	4.35		ug/L		87	57 - 133
1,2-Dichlorobenzene	5.00	4.80		ug/L		96	80 - 120
1,2-Dibromo-3-Chloropropane	5.00	4.97		ug/L		99	65 - 133
1,2,4-Trichlorobenzene	5.00	4.80		ug/L		96	61 - 148
Hexachlorobutadiene	5.00	4.74		ug/L		95	74 - 131
Naphthalene	5.00	4.36		ug/L		87	63 - 150
1,2,3-Trichlorobenzene	5.00	4.70		ug/L		94	65 - 150
1,3,5-Trimethylbenzene	5.00	4.37		ug/L		87	80 - 122

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

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

Lab Sample ID: LCS 580-471920/4

Matrix: Water

Analysis Batch: 471920

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	100		80 - 120
1,2-Dichloroethane-d4 (Surr)	99		80 - 120
4-Bromofluorobenzene (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	96		80 - 120

Lab Sample ID: LCSD 580-471920/5

Matrix: Water

Analysis Batch: 471920

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	5.53		ug/L		111	20 - 150	9	33
Chloromethane	5.00	5.77		ug/L		115	25 - 150	9	26
Vinyl chloride	5.00	6.18		ug/L		124	31 - 150	6	26
Bromomethane	5.00	6.60		ug/L		132	36 - 150	12	33
Chloroethane	5.00	5.17		ug/L		103	38 - 150	2	28
Trichlorofluoromethane	5.00	5.07		ug/L		101	45 - 148	8	35
Carbon disulfide	5.00	4.18		ug/L		84	63 - 134	6	24
1,1-Dichloroethene	5.00	4.45		ug/L		89	70 - 129	10	23
Acetone	25.0	23.3		ug/L		93	44 - 150	7	33
Methylene Chloride	5.00	5.22		ug/L		104	77 - 125	5	18
Methyl tert-butyl ether	5.00	4.82		ug/L		96	72 - 120	4	18
trans-1,2-Dichloroethene	5.00	4.63		ug/L		93	75 - 120	3	21
1,1-Dichloroethane	5.00	4.78		ug/L		96	80 - 120	4	15
2-Butanone (MEK)	25.0	20.4		ug/L		82	65 - 137	11	34
2,2-Dichloropropane	5.00	4.51		ug/L		90	66 - 126	1	22
cis-1,2-Dichloroethene	5.00	4.94		ug/L		99	76 - 120	9	20
Chlorobromomethane	5.00	5.23		ug/L		105	78 - 120	7	13
Chloroform	5.00	4.79		ug/L		96	78 - 127	4	14
1,1,1-Trichloroethane	5.00	4.78		ug/L		96	74 - 130	0	19
Carbon tetrachloride	5.00	4.27		ug/L		85	72 - 129	1	19
1,1-Dichloropropene	5.00	4.30		ug/L		86	74 - 120	2	14
Benzene	5.00	4.79		ug/L		96	80 - 122	1	14
1,2-Dichloroethane	5.00	4.40		ug/L		88	69 - 126	1	11
Trichloroethene	5.00	4.47		ug/L		89	80 - 125	6	13
1,2-Dichloropropane	5.00	4.60		ug/L		92	80 - 120	3	14
4-Methyl-2-pentanone (MIBK)	25.0	23.8		ug/L		95	59 - 141	1	22
Dibromomethane	5.00	4.88		ug/L		98	80 - 120	2	11
Bromodichloromethane	5.00	4.78		ug/L		96	75 - 124	2	13
Dichlorobromomethane	5.00	4.78		ug/L		96	75 - 124	2	13
cis-1,3-Dichloropropene	5.00	4.62		ug/L		92	77 - 120	3	35
Toluene	5.00	4.66		ug/L		93	80 - 120	1	13
trans-1,3-Dichloropropene	5.00	4.78		ug/L		96	76 - 122	6	20
1,1,2-Trichloroethane	5.00	4.18		ug/L		84	80 - 121	4	14
Tetrachloroethene	5.00	4.54		ug/L		91	76 - 125	3	13
1,3-Dichloropropane	5.00	4.90		ug/L		98	79 - 120	2	19
Chlorodibromomethane	5.00	4.70		ug/L		94	73 - 125	4	13
Ethylene Dibromide	5.00	4.37		ug/L		87	79 - 126	3	12
Chlorobenzene	5.00	4.68		ug/L		94	80 - 120	2	10

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

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

Lab Sample ID: LCSD 580-471920/5

Matrix: Water

Analysis Batch: 471920

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	5.00	4.19		ug/L		84	79 - 120	7	16
Ethylbenzene	5.00	4.84		ug/L		97	80 - 120	5	14
m-Xylene & p-Xylene	5.00	4.89		ug/L		98	80 - 120	3	14
o-Xylene	5.00	4.78		ug/L		96	80 - 120	4	16
Styrene	5.00	4.59		ug/L		92	76 - 122	4	16
Bromoform	5.00	4.77		ug/L		95	56 - 139	1	21
Isopropylbenzene	5.00	5.65		ug/L		113	80 - 123	8	19
Bromobenzene	5.00	4.90		ug/L		98	80 - 120	6	24
1,1,2,2-Tetrachloroethane	5.00	5.07		ug/L		101	74 - 124	3	25
1,2,3-Trichloropropane	5.00	4.58		ug/L		92	76 - 124	3	26
N-Propylbenzene	5.00	4.94		ug/L		99	80 - 122	3	22
2-Chlorotoluene	5.00	4.77		ug/L		95	80 - 120	2	20
4-Chlorotoluene	5.00	4.95		ug/L		99	73 - 129	7	29
tert-Butylbenzene	5.00	4.75		ug/L		95	75 - 123	5	21
1,2,4-Trimethylbenzene	5.00	4.45		ug/L		89	80 - 120	3	16
sec-Butylbenzene	5.00	4.72		ug/L		94	78 - 122	7	15
4-Isopropyltoluene	5.00	4.48		ug/L		90	77 - 126	5	20
1,3-Dichlorobenzene	5.00	4.96		ug/L		99	77 - 127	3	35
1,4-Dichlorobenzene	5.00	4.82		ug/L		96	80 - 120	4	17
n-Butylbenzene	5.00	4.47		ug/L		89	57 - 133	3	14
1,2-Dichlorobenzene	5.00	4.90		ug/L		98	80 - 120	2	15
1,2-Dibromo-3-Chloropropane	5.00	4.97		ug/L		99	65 - 133	0	25
1,2,4-Trichlorobenzene	5.00	5.01		ug/L		100	61 - 148	4	27
Hexachlorobutadiene	5.00	4.70		ug/L		94	74 - 131	1	22
Naphthalene	5.00	4.44		ug/L		89	63 - 150	2	33
1,2,3-Trichlorobenzene	5.00	4.90		ug/L		98	65 - 150	4	33
1,3,5-Trimethylbenzene	5.00	4.54		ug/L		91	80 - 122	4	21

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
Toluene-d8 (Surr)	101		80 - 120
1,2-Dichloroethane-d4 (Surr)	99		80 - 120
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	100		80 - 120

Lab Sample ID: 580-143800-9 MS

Matrix: Water

Analysis Batch: 471920

Client Sample ID: MWA-58d-091124

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorodifluoromethane	ND		50.0	68.7		ug/L		137	20 - 150
Chloromethane	ND		50.0	63.2		ug/L		126	25 - 150
Vinyl chloride	ND		50.0	72.9		ug/L		146	31 - 150
Bromomethane	ND		50.0	57.4		ug/L		115	36 - 150
Chloroethane	ND		50.0	62.9		ug/L		126	38 - 150
Trichlorofluoromethane	ND		50.0	59.7		ug/L		119	45 - 148
Carbon disulfide	ND		50.0	50.6		ug/L		101	63 - 134
1,1-Dichloroethene	ND		50.0	52.9		ug/L		106	70 - 129
Acetone	39	J	250	263		ug/L		89	44 - 150

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

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

Lab Sample ID: 580-143800-9 MS

Matrix: Water

Analysis Batch: 471920

Client Sample ID: MWA-58d-091124

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Methylene Chloride	ND		50.0	60.3		ug/L		121	77 - 125
Methyl tert-butyl ether	ND		50.0	49.4		ug/L		99	72 - 120
trans-1,2-Dichloroethene	ND		50.0	55.0		ug/L		110	75 - 120
1,1-Dichloroethane	ND		50.0	56.7		ug/L		113	80 - 120
2-Butanone (MEK)	ND		250	212		ug/L		85	65 - 137
2,2-Dichloropropane	ND		50.0	44.7		ug/L		89	66 - 126
cis-1,2-Dichloroethene	ND		50.0	53.9		ug/L		108	76 - 120
Chlorobromomethane	ND		50.0	56.3		ug/L		113	78 - 120
Chloroform	200	F1	50.0	243		ug/L		92	78 - 127
1,1,1-Trichloroethane	ND		50.0	57.3		ug/L		115	74 - 130
Carbon tetrachloride	ND		50.0	53.2		ug/L		106	72 - 129
1,1-Dichloropropene	ND		50.0	51.8		ug/L		104	74 - 120
Benzene	ND		50.0	54.1		ug/L		108	80 - 122
1,2-Dichloroethane	ND		50.0	49.9		ug/L		100	69 - 126
Trichloroethene	ND		50.0	51.0		ug/L		102	80 - 125
1,2-Dichloropropane	ND		50.0	51.3		ug/L		103	80 - 120
4-Methyl-2-pentanone (MIBK)	ND		250	231		ug/L		92	59 - 141
Dibromomethane	ND		50.0	53.5		ug/L		107	80 - 120
Bromodichloromethane	ND		50.0	52.9		ug/L		106	75 - 124
cis-1,3-Dichloropropene	ND		50.0	46.0		ug/L		92	77 - 120
Toluene	ND		50.0	51.8		ug/L		104	80 - 120
trans-1,3-Dichloropropene	ND		50.0	47.9		ug/L		96	76 - 122
1,1,2-Trichloroethane	ND		50.0	42.6		ug/L		85	80 - 121
Tetrachloroethene	ND		50.0	51.1		ug/L		102	76 - 125
1,3-Dichloropropane	ND		50.0	51.2		ug/L		102	79 - 120
Chlorodibromomethane	ND		50.0	50.8		ug/L		102	73 - 125
Ethylene Dibromide	ND		50.0	45.2		ug/L		90	79 - 126
Chlorobenzene	ND		50.0	51.1		ug/L		102	80 - 120
1,1,1,2-Tetrachloroethane	ND		50.0	45.1		ug/L		90	79 - 120
Ethylbenzene	ND		50.0	53.5		ug/L		107	80 - 120
m-Xylene & p-Xylene	ND		50.0	54.0		ug/L		108	80 - 120
o-Xylene	ND		50.0	53.3		ug/L		107	80 - 120
Styrene	ND		50.0	46.4		ug/L		93	76 - 122
Bromoform	ND		50.0	46.7		ug/L		93	56 - 139
Isopropylbenzene	ND	F1	50.0	61.3		ug/L		123	80 - 123
Bromobenzene	ND		50.0	50.7		ug/L		101	80 - 120
1,1,2,2-Tetrachloroethane	ND		50.0	49.1		ug/L		98	74 - 124
1,2,3-Trichloropropane	ND		50.0	45.6		ug/L		91	76 - 124
N-Propylbenzene	ND		50.0	55.8		ug/L		112	80 - 122
2-Chlorotoluene	ND		50.0	52.7		ug/L		105	80 - 120
4-Chlorotoluene	ND		50.0	53.4		ug/L		107	73 - 129
tert-Butylbenzene	ND		50.0	51.3		ug/L		103	75 - 123
1,2,4-Trimethylbenzene	ND		50.0	48.9		ug/L		98	80 - 120
sec-Butylbenzene	ND		50.0	50.9		ug/L		102	78 - 122
4-Isopropyltoluene	ND		50.0	48.8		ug/L		98	77 - 126
1,3-Dichlorobenzene	ND		50.0	52.7		ug/L		105	77 - 127
1,4-Dichlorobenzene	ND		50.0	50.5		ug/L		101	80 - 120
n-Butylbenzene	ND		50.0	47.9		ug/L		96	57 - 133
1,2-Dichlorobenzene	ND		50.0	52.4		ug/L		105	80 - 120

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

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

Lab Sample ID: 580-143800-9 MS

Matrix: Water

Analysis Batch: 471920

Client Sample ID: MWA-58d-091124

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromo-3-Chloropropane	ND		50.0	49.3		ug/L		99	65 - 133
1,2,4-Trichlorobenzene	ND		50.0	50.7		ug/L		101	61 - 148
Hexachlorobutadiene	ND		50.0	50.9		ug/L		102	74 - 131
Naphthalene	ND		50.0	44.2		ug/L		88	63 - 150
1,2,3-Trichlorobenzene	ND		50.0	51.3		ug/L		103	65 - 150
1,3,5-Trimethylbenzene	ND		50.0	49.5		ug/L		99	80 - 122

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	99		80 - 120
1,2-Dichloroethane-d4 (Surr)	102		80 - 120
4-Bromofluorobenzene (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	102		80 - 120

Lab Sample ID: 580-143800-9 MSD

Matrix: Water

Analysis Batch: 471920

Client Sample ID: MWA-58d-091124

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		50.0	65.5		ug/L		131	20 - 150	5	33
Chloromethane	ND		50.0	61.0		ug/L		122	25 - 150	4	26
Vinyl chloride	ND		50.0	70.4		ug/L		141	31 - 150	4	26
Bromomethane	ND		50.0	59.8		ug/L		120	36 - 150	4	33
Chloroethane	ND		50.0	58.6		ug/L		117	38 - 150	7	28
Trichlorofluoromethane	ND		50.0	57.3		ug/L		115	45 - 148	4	35
Carbon disulfide	ND		50.0	49.3		ug/L		99	63 - 134	2	24
1,1-Dichloroethene	ND		50.0	52.6		ug/L		105	70 - 129	1	23
Acetone	39	J	250	271		ug/L		93	44 - 150	3	33
Methylene Chloride	ND		50.0	59.1		ug/L		118	77 - 125	2	18
Methyl tert-butyl ether	ND		50.0	55.2		ug/L		110	72 - 120	11	18
trans-1,2-Dichloroethene	ND		50.0	52.5		ug/L		105	75 - 120	5	21
1,1-Dichloroethane	ND		50.0	54.0		ug/L		108	80 - 120	5	15
2-Butanone (MEK)	ND		250	238		ug/L		95	65 - 137	12	34
2,2-Dichloropropane	ND		50.0	45.8		ug/L		92	66 - 126	2	22
cis-1,2-Dichloroethene	ND		50.0	54.0		ug/L		108	76 - 120	0	20
Chlorobromomethane	ND		50.0	57.3		ug/L		115	78 - 120	2	13
Chloroform	200	F1	50.0	236	F1	ug/L		77	78 - 127	3	14
1,1,1-Trichloroethane	ND		50.0	58.2		ug/L		116	74 - 130	2	19
Carbon tetrachloride	ND		50.0	54.8		ug/L		110	72 - 129	3	19
1,1-Dichloropropene	ND		50.0	55.2		ug/L		110	74 - 120	6	14
Benzene	ND		50.0	55.2		ug/L		110	80 - 122	2	14
1,2-Dichloroethane	ND		50.0	51.1		ug/L		102	69 - 126	2	11
Trichloroethene	ND		50.0	53.6		ug/L		107	80 - 125	5	13
1,2-Dichloropropane	ND		50.0	53.9		ug/L		108	80 - 120	5	14
4-Methyl-2-pentanone (MIBK)	ND		250	250		ug/L		100	59 - 141	8	22
Dibromomethane	ND		50.0	54.2		ug/L		108	80 - 120	1	11
Bromodichloromethane	ND		50.0	57.0		ug/L		114	75 - 124	7	13
cis-1,3-Dichloropropene	ND		50.0	52.6		ug/L		105	77 - 120	13	35
Toluene	ND		50.0	52.3		ug/L		105	80 - 120	1	13

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

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

Lab Sample ID: 580-143800-9 MSD

Matrix: Water

Analysis Batch: 471920

Client Sample ID: MWA-58d-091124

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
trans-1,3-Dichloropropene	ND		50.0	52.6		ug/L		105	76 - 122	9	20
1,1,2-Trichloroethane	ND		50.0	47.5		ug/L		95	80 - 121	11	14
Tetrachloroethene	ND		50.0	53.5		ug/L		107	76 - 125	5	13
1,3-Dichloropropane	ND		50.0	55.7		ug/L		111	79 - 120	8	19
Chlorodibromomethane	ND		50.0	55.5		ug/L		111	73 - 125	9	13
Ethylene Dibromide	ND		50.0	50.0		ug/L		100	79 - 126	10	12
Chlorobenzene	ND		50.0	52.2		ug/L		104	80 - 120	2	10
1,1,1,2-Tetrachloroethane	ND		50.0	50.8		ug/L		102	79 - 120	12	16
Ethylbenzene	ND		50.0	54.2		ug/L		108	80 - 120	1	14
m-Xylene & p-Xylene	ND		50.0	54.4		ug/L		109	80 - 120	1	14
o-Xylene	ND		50.0	53.1		ug/L		106	80 - 120	0	16
Styrene	ND		50.0	47.4		ug/L		95	76 - 122	2	16
Bromoform	ND		50.0	53.6		ug/L		107	56 - 139	14	21
Isopropylbenzene	ND	F1	50.0	62.2	F1	ug/L		124	80 - 123	1	19
Bromobenzene	ND		50.0	52.1		ug/L		104	80 - 120	3	24
1,1,2,2-Tetrachloroethane	ND		50.0	52.2		ug/L		104	74 - 124	6	25
1,2,3-Trichloropropane	ND		50.0	49.8		ug/L		100	76 - 124	9	26
N-Propylbenzene	ND		50.0	54.9		ug/L		110	80 - 122	2	22
2-Chlorotoluene	ND		50.0	52.1		ug/L		104	80 - 120	1	20
4-Chlorotoluene	ND		50.0	53.6		ug/L		107	73 - 129	0	29
tert-Butylbenzene	ND		50.0	51.8		ug/L		104	75 - 123	1	21
1,2,4-Trimethylbenzene	ND		50.0	49.7		ug/L		99	80 - 120	2	16
sec-Butylbenzene	ND		50.0	52.8		ug/L		106	78 - 122	4	15
4-Isopropyltoluene	ND		50.0	49.1		ug/L		98	77 - 126	0	20
1,3-Dichlorobenzene	ND		50.0	52.7		ug/L		105	77 - 127	0	35
1,4-Dichlorobenzene	ND		50.0	50.8		ug/L		102	80 - 120	1	17
n-Butylbenzene	ND		50.0	49.7		ug/L		99	57 - 133	4	14
1,2-Dichlorobenzene	ND		50.0	52.5		ug/L		105	80 - 120	0	15
1,2-Dibromo-3-Chloropropane	ND		50.0	52.2		ug/L		104	65 - 133	6	25
1,2,4-Trichlorobenzene	ND		50.0	53.2		ug/L		106	61 - 148	5	27
Hexachlorobutadiene	ND		50.0	54.2		ug/L		108	74 - 131	6	22
Naphthalene	ND		50.0	47.4		ug/L		95	63 - 150	7	33
1,2,3-Trichlorobenzene	ND		50.0	53.3		ug/L		107	65 - 150	4	33
1,3,5-Trimethylbenzene	ND		50.0	50.0		ug/L		100	80 - 122	1	21

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
Toluene-d8 (Surr)	100		80 - 120
1,2-Dichloroethane-d4 (Surr)	101		80 - 120
4-Bromofluorobenzene (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	99		80 - 120

Lab Sample ID: MB 580-471925/7

Matrix: Water

Analysis Batch: 471925

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			09/19/24 07:02	1
Chloromethane	ND		0.50	0.14	ug/L			09/19/24 07:02	1

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

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

Lab Sample ID: MB 580-471925/7

Matrix: Water

Analysis Batch: 471925

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.10	0.040	ug/L			09/19/24 07:02	1
Bromomethane	ND		0.50	0.13	ug/L			09/19/24 07:02	1
Chloroethane	ND		0.50	0.24	ug/L			09/19/24 07:02	1
Carbon disulfide	ND		0.40	0.20	ug/L			09/19/24 07:02	1
Trichlorofluoromethane	ND		0.50	0.12	ug/L			09/19/24 07:02	1
1,1-Dichloroethene	ND		0.20	0.035	ug/L			09/19/24 07:02	1
Acetone	ND		10	3.1	ug/L			09/19/24 07:02	1
Methylene Chloride	ND		5.0	1.2	ug/L			09/19/24 07:02	1
Methyl tert-butyl ether	ND		0.30	0.070	ug/L			09/19/24 07:02	1
2-Butanone (MEK)	ND		10	2.5	ug/L			09/19/24 07:02	1
trans-1,2-Dichloroethene	ND		0.20	0.033	ug/L			09/19/24 07:02	1
1,1-Dichloroethane	ND		0.20	0.064	ug/L			09/19/24 07:02	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			09/19/24 07:02	1
cis-1,2-Dichloroethene	ND		0.20	0.055	ug/L			09/19/24 07:02	1
Chlorobromomethane	ND		0.20	0.050	ug/L			09/19/24 07:02	1
Chloroform	ND		0.20	0.030	ug/L			09/19/24 07:02	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			09/19/24 07:02	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			09/19/24 07:02	1
1,1-Dichloropropene	ND		0.20	0.084	ug/L			09/19/24 07:02	1
Benzene	0.143	J	0.20	0.030	ug/L			09/19/24 07:02	1
1,2-Dichloroethane	ND		0.25	0.12	ug/L			09/19/24 07:02	1
Trichloroethene	ND		0.20	0.066	ug/L			09/19/24 07:02	1
1,2-Dichloropropane	ND		0.20	0.060	ug/L			09/19/24 07:02	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.7	ug/L			09/19/24 07:02	1
Dibromomethane	ND		0.20	0.062	ug/L			09/19/24 07:02	1
Dichlorobromomethane	ND		0.20	0.060	ug/L			09/19/24 07:02	1
cis-1,3-Dichloropropene	ND		0.20	0.090	ug/L			09/19/24 07:02	1
Toluene	ND		0.20	0.050	ug/L			09/19/24 07:02	1
trans-1,3-Dichloropropene	ND		0.20	0.092	ug/L			09/19/24 07:02	1
1,1,2-Trichloroethane	ND		0.20	0.070	ug/L			09/19/24 07:02	1
Tetrachloroethene	ND		0.24	0.084	ug/L			09/19/24 07:02	1
1,3-Dichloropropane	ND		0.20	0.056	ug/L			09/19/24 07:02	1
Chlorodibromomethane	ND		0.20	0.055	ug/L			09/19/24 07:02	1
Ethylene Dibromide	ND		0.15	0.067	ug/L			09/19/24 07:02	1
Chlorobenzene	ND		0.20	0.060	ug/L			09/19/24 07:02	1
1,1,1,2-Tetrachloroethane	ND		0.30	0.11	ug/L			09/19/24 07:02	1
Ethylbenzene	ND		0.20	0.082	ug/L			09/19/24 07:02	1
m-Xylene & p-Xylene	ND		0.50	0.12	ug/L			09/19/24 07:02	1
o-Xylene	ND		0.50	0.23	ug/L			09/19/24 07:02	1
Styrene	ND		1.0	0.33	ug/L			09/19/24 07:02	1
Bromoform	ND		0.50	0.16	ug/L			09/19/24 07:02	1
Isopropylbenzene	ND		1.0	0.27	ug/L			09/19/24 07:02	1
Bromobenzene	ND		0.20	0.038	ug/L			09/19/24 07:02	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.056	ug/L			09/19/24 07:02	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			09/19/24 07:02	1
N-Propylbenzene	ND		0.30	0.091	ug/L			09/19/24 07:02	1
2-Chlorotoluene	ND		0.50	0.12	ug/L			09/19/24 07:02	1
4-Chlorotoluene	ND		0.30	0.12	ug/L			09/19/24 07:02	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			09/19/24 07:02	1

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

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

Lab Sample ID: MB 580-471925/7

Matrix: Water

Analysis Batch: 471925

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		0.50	0.26	ug/L			09/19/24 07:02	1
1,2,4-Trimethylbenzene	ND		0.55	0.23	ug/L			09/19/24 07:02	1
sec-Butylbenzene	ND		1.0	0.17	ug/L			09/19/24 07:02	1
4-Isopropyltoluene	ND		0.50	0.25	ug/L			09/19/24 07:02	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			09/19/24 07:02	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			09/19/24 07:02	1
n-Butylbenzene	0.351	J	1.0	0.35	ug/L			09/19/24 07:02	1
1,2-Dichlorobenzene	ND		0.30	0.038	ug/L			09/19/24 07:02	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.48	ug/L			09/19/24 07:02	1
1,2,4-Trichlorobenzene	ND		1.5	0.36	ug/L			09/19/24 07:02	1
Hexachlorobutadiene	ND		0.50	0.16	ug/L			09/19/24 07:02	1
Naphthalene	ND		1.5	0.52	ug/L			09/19/24 07:02	1
1,2,3-Trichlorobenzene	ND		1.5	0.47	ug/L			09/19/24 07:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	89		80 - 120		09/19/24 07:02	1
Dibromofluoromethane (Surr)	110		80 - 120		09/19/24 07:02	1
4-Bromofluorobenzene (Surr)	105		80 - 120		09/19/24 07:02	1
1,2-Dichloroethane-d4 (Surr)	110		80 - 120		09/19/24 07:02	1

Lab Sample ID: LCS 580-471925/4

Matrix: Water

Analysis Batch: 471925

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	5.31		ug/L		106	20 - 150
Chloromethane	5.00	5.06		ug/L		101	32 - 150
Vinyl chloride	5.00	5.91		ug/L		118	41 - 150
Bromomethane	5.00	5.94		ug/L		119	51 - 148
Chloroethane	5.00	4.97		ug/L		99	54 - 140
Carbon disulfide	5.00	4.71		ug/L		94	54 - 142
Trichlorofluoromethane	5.00	5.81		ug/L		116	60 - 132
1,1-Dichloroethene	5.00	5.20		ug/L		104	60 - 129
Acetone	25.0	27.1		ug/L		108	49 - 150
Methylene Chloride	5.00	5.48		ug/L		110	40 - 142
Methyl tert-butyl ether	5.00	6.19		ug/L		124	61 - 131
2-Butanone (MEK)	25.0	30.3		ug/L		121	37 - 150
trans-1,2-Dichloroethene	5.00	5.74		ug/L		115	69 - 121
1,1-Dichloroethane	5.00	5.79		ug/L		116	74 - 120
2,2-Dichloropropane	5.00	4.76		ug/L		95	55 - 140
cis-1,2-Dichloroethene	5.00	5.95		ug/L		119	72 - 120
Chlorobromomethane	5.00	5.85		ug/L		117	79 - 121
Chloroform	5.00	5.67		ug/L		113	75 - 120
1,1,1-Trichloroethane	5.00	5.59		ug/L		112	70 - 121
Carbon tetrachloride	5.00	5.66		ug/L		113	66 - 130
1,1-Dichloropropene	5.00	5.86		ug/L		117	72 - 125
Benzene	5.00	5.94		ug/L		119	80 - 120
1,2-Dichloroethane	5.00	5.86		ug/L		117	74 - 127

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

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

Lab Sample ID: LCS 580-471925/4

Matrix: Water

Analysis Batch: 471925

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Trichloroethene	5.00	5.74		ug/L		115	72 - 120
1,2-Dichloropropane	5.00	6.07		ug/L		121	69 - 130
4-Methyl-2-pentanone (MIBK)	25.0	25.0		ug/L		100	63 - 137
Dibromomethane	5.00	6.42		ug/L		128	65 - 141
Dichlorobromomethane	5.00	5.86		ug/L		117	74 - 131
cis-1,3-Dichloropropene	5.00	4.49		ug/L		90	77 - 131
Toluene	5.00	4.66		ug/L		93	80 - 126
trans-1,3-Dichloropropene	5.00	4.88		ug/L		98	71 - 138
1,1,2-Trichloroethane	5.00	4.82		ug/L		96	73 - 127
Tetrachloroethene	5.00	4.41		ug/L		88	75 - 124
1,3-Dichloropropane	5.00	4.96		ug/L		99	69 - 138
Chlorodibromomethane	5.00	4.50		ug/L		90	62 - 141
Ethylene Dibromide	5.00	4.84		ug/L		97	61 - 143
Chlorobenzene	5.00	4.67		ug/L		93	74 - 123
1,1,1,2-Tetrachloroethane	5.00	4.85		ug/L		97	69 - 127
Ethylbenzene	5.00	4.91		ug/L		98	80 - 124
m-Xylene & p-Xylene	5.00	4.96		ug/L		99	75 - 124
o-Xylene	5.00	4.87		ug/L		97	71 - 124
Styrene	5.00	4.87		ug/L		97	74 - 127
Bromoform	5.00	4.67		ug/L		93	48 - 127
Isopropylbenzene	5.00	5.16		ug/L		103	71 - 123
Bromobenzene	5.00	4.52		ug/L		90	74 - 130
1,1,2,2-Tetrachloroethane	5.00	4.52		ug/L		90	67 - 136
1,2,3-Trichloropropane	5.00	4.60		ug/L		92	67 - 135
N-Propylbenzene	5.00	4.54		ug/L		91	72 - 126
2-Chlorotoluene	5.00	4.63		ug/L		93	73 - 120
4-Chlorotoluene	5.00	4.86		ug/L		97	75 - 124
1,3,5-Trimethylbenzene	5.00	4.31		ug/L		86	75 - 123
tert-Butylbenzene	5.00	4.16		ug/L		83	70 - 129
1,2,4-Trimethylbenzene	5.00	4.39		ug/L		88	71 - 127
sec-Butylbenzene	5.00	4.31		ug/L		86	75 - 126
4-Isopropyltoluene	5.00	4.18		ug/L		84	78 - 125
1,3-Dichlorobenzene	5.00	4.71		ug/L		94	72 - 125
1,4-Dichlorobenzene	5.00	4.48		ug/L		90	71 - 129
n-Butylbenzene	5.00	3.99		ug/L		80	69 - 127
1,2-Dichlorobenzene	5.00	4.60		ug/L		92	72 - 129
1,2-Dibromo-3-Chloropropane	5.00	4.31		ug/L		86	55 - 135
1,2,4-Trichlorobenzene	5.00	4.60		ug/L		92	60 - 130
Hexachlorobutadiene	5.00	4.06		ug/L		81	63 - 130
Naphthalene	5.00	5.07		ug/L		101	54 - 137
1,2,3-Trichlorobenzene	5.00	5.07		ug/L		101	60 - 136

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	90		80 - 120
Dibromofluoromethane (Surr)	107		80 - 120
4-Bromofluorobenzene (Surr)	110		80 - 120
1,2-Dichloroethane-d4 (Surr)	103		80 - 120

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

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

Lab Sample ID: LCSD 580-471925/5

Matrix: Water

Analysis Batch: 471925

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	5.11		ug/L		102	20 - 150	4	30
Chloromethane	5.00	4.83		ug/L		97	32 - 150	5	33
Vinyl chloride	5.00	5.66		ug/L		113	41 - 150	4	32
Bromomethane	5.00	5.43		ug/L		109	51 - 148	9	35
Chloroethane	5.00	4.94		ug/L		99	54 - 140	1	33
Carbon disulfide	5.00	4.44		ug/L		89	54 - 142	6	34
Trichlorofluoromethane	5.00	5.39		ug/L		108	60 - 132	8	32
1,1-Dichloroethene	5.00	4.90		ug/L		98	60 - 129	6	29
Acetone	25.0	27.2		ug/L		109	49 - 150	1	24
Methylene Chloride	5.00	5.31		ug/L		106	40 - 142	3	25
Methyl tert-butyl ether	5.00	6.08		ug/L		122	61 - 131	2	27
2-Butanone (MEK)	25.0	30.4		ug/L		122	37 - 150	0	35
trans-1,2-Dichloroethene	5.00	5.39		ug/L		108	69 - 121	6	27
1,1-Dichloroethane	5.00	5.54		ug/L		111	74 - 120	4	26
2,2-Dichloropropane	5.00	4.50		ug/L		90	55 - 140	6	31
cis-1,2-Dichloroethene	5.00	5.56		ug/L		111	72 - 120	7	22
Chlorobromomethane	5.00	5.78		ug/L		116	79 - 121	1	20
Chloroform	5.00	5.39		ug/L		108	75 - 120	5	21
1,1,1-Trichloroethane	5.00	5.39		ug/L		108	70 - 121	4	24
Carbon tetrachloride	5.00	5.63		ug/L		113	66 - 130	1	24
1,1-Dichloropropene	5.00	5.49		ug/L		110	72 - 125	7	23
Benzene	5.00	5.60		ug/L		112	80 - 120	6	22
1,2-Dichloroethane	5.00	5.67		ug/L		113	74 - 127	3	21
Trichloroethene	5.00	5.40		ug/L		108	72 - 120	6	22
1,2-Dichloropropane	5.00	5.71		ug/L		114	69 - 130	6	22
4-Methyl-2-pentanone (MIBK)	25.0	24.5		ug/L		98	63 - 137	2	26
Dibromomethane	5.00	6.19		ug/L		124	65 - 141	4	22
Dichlorobromomethane	5.00	5.65		ug/L		113	74 - 131	4	21
cis-1,3-Dichloropropene	5.00	4.32		ug/L		86	77 - 131	4	24
Toluene	5.00	4.37		ug/L		87	80 - 126	6	20
trans-1,3-Dichloropropene	5.00	4.63		ug/L		93	71 - 138	5	26
1,1,2-Trichloroethane	5.00	4.73		ug/L		95	73 - 127	2	22
Tetrachloroethene	5.00	4.18		ug/L		84	75 - 124	5	20
1,3-Dichloropropane	5.00	4.80		ug/L		96	69 - 138	3	19
Chlorodibromomethane	5.00	4.46		ug/L		89	62 - 141	1	22
Ethylene Dibromide	5.00	4.74		ug/L		95	61 - 143	2	22
Chlorobenzene	5.00	4.51		ug/L		90	74 - 123	4	21
1,1,1,2-Tetrachloroethane	5.00	4.61		ug/L		92	69 - 127	5	22
Ethylbenzene	5.00	4.70		ug/L		94	80 - 124	4	22
m-Xylene & p-Xylene	5.00	4.71		ug/L		94	75 - 124	5	22
o-Xylene	5.00	4.64		ug/L		93	71 - 124	5	23
Styrene	5.00	4.70		ug/L		94	74 - 127	4	22
Bromoform	5.00	4.59		ug/L		92	48 - 127	2	23
Isopropylbenzene	5.00	4.94		ug/L		99	71 - 123	4	23
Bromobenzene	5.00	4.29		ug/L		86	74 - 130	5	23
1,1,2,2-Tetrachloroethane	5.00	4.54		ug/L		91	67 - 136	1	24
1,2,3-Trichloropropane	5.00	4.60		ug/L		92	67 - 135	0	25
N-Propylbenzene	5.00	4.32		ug/L		86	72 - 126	5	20

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

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

Lab Sample ID: LCSD 580-471925/5

Matrix: Water

Analysis Batch: 471925

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-Chlorotoluene	5.00	4.39		ug/L		88	73 - 120	5	22
4-Chlorotoluene	5.00	4.61		ug/L		92	75 - 124	5	23
1,3,5-Trimethylbenzene	5.00	4.13		ug/L		83	75 - 123	4	23
tert-Butylbenzene	5.00	4.04		ug/L		81	70 - 129	3	24
1,2,4-Trimethylbenzene	5.00	4.16		ug/L		83	71 - 127	5	23
sec-Butylbenzene	5.00	4.05		ug/L		81	75 - 126	6	23
4-Isopropyltoluene	5.00	3.96		ug/L		79	78 - 125	5	24
1,3-Dichlorobenzene	5.00	4.46		ug/L		89	72 - 125	5	22
1,4-Dichlorobenzene	5.00	4.24		ug/L		85	71 - 129	6	22
n-Butylbenzene	5.00	3.84		ug/L		77	69 - 127	4	24
1,2-Dichlorobenzene	5.00	4.46		ug/L		89	72 - 129	3	22
1,2-Dibromo-3-Chloropropane	5.00	4.31		ug/L		86	55 - 135	0	29
1,2,4-Trichlorobenzene	5.00	4.50		ug/L		90	60 - 130	2	26
Hexachlorobutadiene	5.00	3.95		ug/L		79	63 - 130	3	26
Naphthalene	5.00	5.05		ug/L		101	54 - 137	0	28
1,2,3-Trichlorobenzene	5.00	5.01		ug/L		100	60 - 136	1	28

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	90		80 - 120
Dibromofluoromethane (Surr)	106		80 - 120
4-Bromofluorobenzene (Surr)	110		80 - 120
1,2-Dichloroethane-d4 (Surr)	103		80 - 120

Lab Sample ID: MB 580-472077/7

Matrix: Water

Analysis Batch: 472077

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		0.20	0.064	ug/L			09/19/24 22:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 120		09/19/24 22:06	1
Dibromofluoromethane (Surr)	98		80 - 120		09/19/24 22:06	1
4-Bromofluorobenzene (Surr)	98		80 - 120		09/19/24 22:06	1
1,2-Dichloroethane-d4 (Surr)	97		80 - 120		09/19/24 22:06	1

Lab Sample ID: LCS 580-472077/4

Matrix: Water

Analysis Batch: 472077

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethane	5.00	4.49		ug/L		90	74 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	99		80 - 120
4-Bromofluorobenzene (Surr)	100		80 - 120
1,2-Dichloroethane-d4 (Surr)	100		80 - 120

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

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

Lab Sample ID: LCSD 580-472077/5

Matrix: Water

Analysis Batch: 472077

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethane	5.00	4.83		ug/L		97	74 - 120	7	26
Surrogate	%Recovery	LCSD Qualifier	Limits						
Toluene-d8 (Surr)	100		80 - 120						
Dibromofluoromethane (Surr)	103		80 - 120						
4-Bromofluorobenzene (Surr)	101		80 - 120						
1,2-Dichloroethane-d4 (Surr)	101		80 - 120						

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-481536/7

Matrix: Water

Analysis Batch: 481536

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			09/17/24 06:44	1

Lab Sample ID: LCS 570-481536/8

Matrix: Water

Analysis Batch: 481536

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate	25.0	27.4		ug/L		110	85 - 115		

Lab Sample ID: LCSD 570-481536/9

Matrix: Water

Analysis Batch: 481536

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
Perchlorate	25.0	27.5		ug/L		110	85 - 115	0	15

Lab Sample ID: MRL 570-481536/1004

Matrix: Water

Analysis Batch: 481536

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate	2.00	1.87	J	ug/L		93	75 - 125		

Lab Sample ID: 580-143800-9 MS

Matrix: Water

Analysis Batch: 481536

Client Sample ID: MWA-58d-091124

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Perchlorate	54000		100000	173000		ug/L		119	80 - 120		

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QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: 580-143800-9 MSD
Matrix: Water
Analysis Batch: 481536

Client Sample ID: MWA-58d-091124
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	54000		100000	173000		ug/L		119	80 - 120	0	15

Lab Sample ID: MB 570-485083/7
Matrix: Water
Analysis Batch: 485083

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			09/26/24 13:53	1

Lab Sample ID: LCS 570-485083/8
Matrix: Water
Analysis Batch: 485083

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	25.0	25.6		ug/L		102	85 - 115

Lab Sample ID: LCSD 570-485083/9
Matrix: Water
Analysis Batch: 485083

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
Perchlorate	25.0	25.0		ug/L		100	85 - 115	2	15

Lab Sample ID: MB 570-486572/7
Matrix: Water
Analysis Batch: 486572

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			10/01/24 14:09	1

Lab Sample ID: LCS 570-486572/8
Matrix: Water
Analysis Batch: 486572

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	25.0	25.7		ug/L		103	85 - 115

Lab Sample ID: LCSD 570-486572/9
Matrix: Water
Analysis Batch: 486572

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
Perchlorate	25.0	25.4		ug/L		101	85 - 115	2	15

Lab Sample ID: MB 570-487035/7
Matrix: Water
Analysis Batch: 487035

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			10/02/24 13:42	1

Eurofins Seattle

QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: LCS 570-487035/8
Matrix: Water
Analysis Batch: 487035

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	25.0	24.5		ug/L		98	85 - 115

Lab Sample ID: LCSD 570-487035/9
Matrix: Water
Analysis Batch: 487035

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
Perchlorate	25.0	25.3		ug/L		101	85 - 115	3	15

Method: 314.0 - Perchlorate (IC) - DL2

Lab Sample ID: 580-143800-7 MS
Matrix: Water
Analysis Batch: 487035

Client Sample ID: MWA-56d-091124
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate - DL2	14000		10000	23700		ug/L		102	80 - 120

Lab Sample ID: 580-143800-7 MSD
Matrix: Water
Analysis Batch: 487035

Client Sample ID: MWA-56d-091124
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate - DL2	14000		10000	23400		ug/L		99	80 - 120	1	15

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-473571/3
Matrix: Water
Analysis Batch: 473571

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			10/02/24 21:42	1

Lab Sample ID: LCS 580-473571/4
Matrix: Water
Analysis Batch: 473571

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 580-473571/5
Matrix: Water
Analysis Batch: 473571

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

Eurofins Seattle

QC Sample Results

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 580-143800-9 MS

Matrix: Water

Analysis Batch: 473571

Client Sample ID: MWA-58d-091124

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	17000		50.0	16700	4	mg/L		-802	90 - 110		

Lab Sample ID: 580-143800-9 MSD

Matrix: Water

Analysis Batch: 473571

Client Sample ID: MWA-58d-091124

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	17000		50.0	16600	4	mg/L		-851	90 - 110	0	15

Lab Chronicle

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: TB-091124-A

Date Collected: 09/11/24 00:01

Date Received: 09/12/24 12:55

Lab Sample ID: 580-143800-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471920	JBT	EET SEA	09/19/24 01:27

Client Sample ID: RB-02-091124

Date Collected: 09/11/24 06:00

Date Received: 09/12/24 12:55

Lab Sample ID: 580-143800-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471920	JBT	EET SEA	09/19/24 00:17
Total/NA	Analysis	314.0		1	481536	YO8L	EET CAL 4	09/17/24 07:59
Total/NA	Analysis	300.0		1	473571	MLT	EET SEA	10/02/24 23:05

Client Sample ID: PA-22d-091124

Date Collected: 09/11/24 07:13

Date Received: 09/12/24 12:55

Lab Sample ID: 580-143800-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471920	JBT	EET SEA	09/19/24 03:22
Total/NA	Analysis	314.0	DL2	400	487035	M5Z3	EET CAL 4	10/02/24 15:15
Total/NA	Analysis	300.0		1000	473571	MLT	EET SEA	10/02/24 23:29

Client Sample ID: PA-20d-091124

Date Collected: 09/11/24 09:30

Date Received: 09/12/24 12:55

Lab Sample ID: 580-143800-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471920	JBT	EET SEA	09/19/24 04:08
Total/NA	Analysis	314.0	RA	1	486572	M5Z3	EET CAL 4	10/01/24 21:05
Total/NA	Analysis	300.0		50	473571	MLT	EET SEA	10/03/24 00:17

Client Sample ID: PA-19d-091124

Date Collected: 09/11/24 11:34

Date Received: 09/12/24 12:55

Lab Sample ID: 580-143800-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		500	471920	JBT	EET SEA	09/19/24 06:50
Total/NA	Analysis	314.0		5	485083	M5Z3	EET CAL 4	09/26/24 23:29
Total/NA	Analysis	300.0		10	473571	MLT	EET SEA	10/03/24 00:53

Client Sample ID: PA-30d-091124

Date Collected: 09/11/24 12:35

Date Received: 09/12/24 12:55

Lab Sample ID: 580-143800-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1000	471920	JBT	EET SEA	09/19/24 07:13
Total/NA	Analysis	314.0		20	485083	M5Z3	EET CAL 4	09/26/24 23:48

Eurofins Seattle

Lab Chronicle

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: PA-30d-091124

Date Collected: 09/11/24 12:35

Date Received: 09/12/24 12:55

Lab Sample ID: 580-143800-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	473571	MLT	EET SEA	10/03/24 01:28

Client Sample ID: MWA-56d-091124

Date Collected: 09/11/24 08:49

Date Received: 09/12/24 12:55

Lab Sample ID: 580-143800-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	471920	JBT	EET SEA	09/19/24 04:55
Total/NA	Analysis	314.0	DL2	400	487035	M5Z3	EET CAL 4	10/02/24 15:34
Total/NA	Analysis	300.0		1000	473571	MLT	EET SEA	10/03/24 02:28

Client Sample ID: Dup-02-091124

Date Collected: 09/11/24 08:50

Date Received: 09/12/24 12:55

Lab Sample ID: 580-143800-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	471920	JBT	EET SEA	09/19/24 05:18
Total/NA	Analysis	314.0		1000	481536	YO8L	EET CAL 4	09/17/24 16:51
Total/NA	Analysis	300.0		1000	473571	MLT	EET SEA	10/03/24 02:52

Client Sample ID: MWA-58d-091124

Date Collected: 09/11/24 07:14

Date Received: 09/12/24 12:55

Lab Sample ID: 580-143800-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	471920	JBT	EET SEA	09/19/24 05:41
Total/NA	Analysis	314.0		2000	481536	YO8L	EET CAL 4	09/17/24 09:22
Total/NA	Analysis	300.0		1000	473571	MLT	EET SEA	10/03/24 03:40

Client Sample ID: MWA-11i(d)-091124

Date Collected: 09/11/24 10:26

Date Received: 09/12/24 12:55

Lab Sample ID: 580-143800-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	471920	JBT	EET SEA	09/19/24 03:45
Total/NA	Analysis	314.0		1	485083	M5Z3	EET CAL 4	09/27/24 00:25
Total/NA	Analysis	300.0		50	473571	MLT	EET SEA	10/03/24 04:51

Client Sample ID: PA-31-091124

Date Collected: 09/11/24 11:56

Date Received: 09/12/24 12:55

Lab Sample ID: 580-143800-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	472077	JBT	EET SEA	09/20/24 00:47
Total/NA	Analysis	8260D		1	471925	JBT	EET SEA	09/19/24 11:18

Eurofins Seattle

Lab Chronicle

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Client Sample ID: PA-31-091124

Date Collected: 09/11/24 11:56

Date Received: 09/12/24 12:55

Lab Sample ID: 580-143800-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	314.0		5	485083	M5Z3	EET CAL 4	09/27/24 00:44
Total/NA	Analysis	300.0		1	473571	MLT	EET SEA	10/03/24 05:15

Client Sample ID: PA-32i-091124

Date Collected: 09/11/24 12:45

Date Received: 09/12/24 12:55

Lab Sample ID: 580-143800-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	472077	JBT	EET SEA	09/20/24 01:34
Total/NA	Analysis	8260D		1	471925	JBT	EET SEA	09/19/24 10:54
Total/NA	Analysis	314.0		20	485083	M5Z3	EET CAL 4	09/27/24 01:59
Total/NA	Analysis	300.0		1	473571	MLT	EET SEA	10/03/24 05:27

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

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

Accreditation/Certification Summary

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Laboratory: Eurofins Seattle

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

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4167	07-07-25

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-24
Arkansas DEQ	State	88-0161	07-02-25
California	Los Angeles County Sanitation Districts	9257304	08-01-24 *
California	State	3082	07-31-26
Kansas	NELAP	E-10420	07-31-25
Nevada	State	CA00111	07-31-25
Oregon	NELAP	4175	02-02-25
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	10-11-24

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Sample Summary

Client: ERM-West
Project/Site: Arkema - Q3 2024 Groundwater Event

Job ID: 580-143800-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-143800-1	TB-091124-A	Water	09/11/24 00:01	09/12/24 12:55
580-143800-2	RB-02-091124	Water	09/11/24 06:00	09/12/24 12:55
580-143800-3	PA-22d-091124	Water	09/11/24 07:13	09/12/24 12:55
580-143800-4	PA-20d-091124	Water	09/11/24 09:30	09/12/24 12:55
580-143800-5	PA-19d-091124	Water	09/11/24 11:34	09/12/24 12:55
580-143800-6	PA-30d-091124	Water	09/11/24 12:35	09/12/24 12:55
580-143800-7	MWA-56d-091124	Water	09/11/24 08:49	09/12/24 12:55
580-143800-8	Dup-02-091124	Water	09/11/24 08:50	09/12/24 12:55
580-143800-9	MWA-58d-091124	Water	09/11/24 07:14	09/12/24 12:55
580-143800-10	MWA-11i(d)-091124	Water	09/11/24 10:26	09/12/24 12:55
580-143800-11	PA-31-091124	Water	09/11/24 11:56	09/12/24 12:55
580-143800-12	PA-32i-091124	Water	09/11/24 12:45	09/12/24 12:55

Eurofins TestAmerica, Seattle

5755 8th Street East

Tacoma, WA 98424

Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record



580-143800 Chain of Custody

eurofins

Environment TestAmerica

COC No:

Page: Pg 1 of 2

Client Information

Client Contact:

Avery Soplat and Andrew Gardner

Company:

ERM-West

Address:

1050 SW 6th Avenue Suite 1650

City:

Portland

State, Zip:

OR, 97204

Phone:

Email:

avery.soplat@erm.com andrew.gardner@erm.com

Project Name:

Arkema - Q3 2024 Groundwater event

Site:

Sampler:

ST / PV

Lab PM:

Cruz, Sheri L

Phone:

E-Mail:

sheri.cruz@testamericainc.co

Analysis Requested

Job #:

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 Dodecahydri
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=soil, BT=biota, A=air)	Field Filtered Sample (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:
TB-091124-A	9/11/24		G	Water			X				2	
RB-02-091124		0600		Water		X		X	X		5	
PA-22d-091124		0713		Water		X		X	X		5	
PA-20d-091124		0930		Water		X		X	X		5	
PA-19d-091124		1134		Water		X		X	X		8	Di 1 VOC
PA-30d-091124		1235		Water		X		X	X		8	Di 1 VOC
MWA-56d-091124		0849		Water		X		X	X		5	
Dup-02-091124		0850		Water		X		X	X		5	
MWA-58-091124		0714		Water		X		X	X	X	15	
MWA-11(d)-091124		1026					X	X	X		5	
PA-31-091124		1156					X	X	X		5	

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:

Date/Time:

Date/Time:

Company:

Received by:

Date/Time:

Date/Time:

Company:

Relinquished by:

Date/Time:

Date/Time:

Company:

Received by:

Date/Time:

Date/Time:

Company:

Relinquished by:

Date/Time:

Date/Time:

Company:

Received by:

Date/Time:

Date/Time:

Company:

Custody Seals Intact:

Δ Yes Δ No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

0.4/0.5 PDx SC II

Environment Test America

Ver: 01/16/2019 10/3/2024

Environment 1d TestAmerica

Ver: 01/10/2024

ORIGIN ID BNOA (503) 908-9200
SAMPLE RECEIVING
EUROFINS PORTLAND
7859 SW CIRRIUS DR
BUILDING 22
BEAVERTON, OR 970087145
UNITED STATES US

SHIP DATE 12SEP24
ACTING 355 LE MAN
CRD 089932/CAFE3808

BILL THIRD PARTY

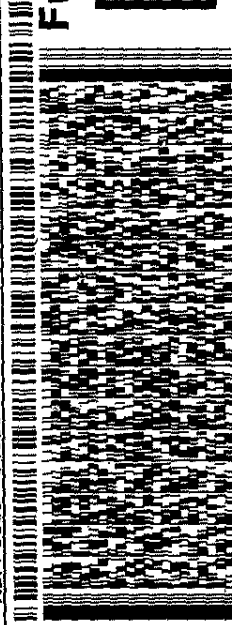
TO SHIPPING/RECEIVING

EUROFINS ENVIRONMENT TESTING SOUTHW
2841 DOW AVENUE, SUITE 100

TUSTIN CA 92780

(714) 896-6484

REF: S580 - 64000



FedEx
Express



FRI - 13 SEP 10:30A
PRIORITY OVERNIGHT

TRK# 7465 1631 4042
0201

WZ DTHA

92780
CA-US SNA



580-143800 Waybill

Chain of Custody Record

 eurofins

Loc: 580

143800

[illegible]

[illegible]

Login Sample Receipt Checklist

Client: ERM-West

Job Number: 580-143800-1

Login Number: 143800

List Source: Eurofins Seattle

List Number: 1

Creator: O'Connell, Jason I

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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	Preservation labels on samples match COC
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (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: 580-143800-1

Login Number: 143800

List Number: 2

Creator: Khana, Piyush

List Source: Eurofins Calscience

List Creation: 09/13/24 12:56 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	Seal present with no number.
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	1.0
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.	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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



APPENDIX C DATA VALIDATION MEMOS



MEMO

TO	Sarah Seekins
FROM	Isaac Barraza
DATE	2024-10-17
REFERENCE	0732445
SUBJECT	Data Review of Arkema, Third Quarter 2024 Groundwater. Samples Collected September 9-11, 2024: Eurofins, Data Package(s) 580-143753-1 and 580-143800-1.

Environmental Resources Management, Inc. (ERM) assessed the data quality and applied any necessary qualifiers 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.

ERM performed a Stage 2A data validation on 100 percent of the laboratory data.

ERM reviewed the following items as part of the data validation.

- **Chain of Custody:** The chains of custody were reviewed for proper completion and that the laboratory performed the requested methods and reported the requested target analytes for each sample.
- **Dilutions and Reanalysis:** Dilutions, calibration ranges, and reanalyses were reviewed as applicable. The best result was chosen when more than one result was reported as final.
- **Case Narrative:** The case narrative was reviewed for comments and any necessary qualifiers added.
- **Sample Preservation:** The appropriate temperature and chemical preservation requirements were reviewed. Headspace for volatile sample analysis was reviewed.
- **Holding Times:** The period of time between collection of the sample and preparation/analysis of the sample was evaluated.
- **Laboratory Blank Samples:** The preparation and analysis of reagent (contaminant-free) water was evaluated, along with the required frequency.

- **Field Blank Samples:** The collection and analysis of field blanks was evaluated. The reviewed data package(s) included the following associated field blanks: trip and rinse.
- **Laboratory Control Spike Samples:** Laboratory control spike sample preparation frequency and recoveries were reviewed as applicable.
- **Matrix Spike Samples:** Matrix spike and post digestion spike sample preparation frequency and recoveries were reviewed as applicable.
- **Surrogate Spikes:** The addition of appropriate surrogates and their recoveries were evaluated.
- **Field Duplicate Samples:** Field duplicate recoveries and/or absolute differences were reviewed as applicable.

Data validation findings are summarized in the sections below. As necessary, the following data quality flags were applied during validation. Professional judgment was used when multiple flags were applied to one result; therefore, the final flag may differ from the one presented in an individual table.

- J = estimated concentration
- J+ = the result is an estimated concentration, but may be biased high
- J- = the result is an estimated concentration, but may be biased low
- UJ = estimated reporting limit
- U = evaluated to be non-detected at the reporting limit
- R = rejected, data not usable
- NJ = tentative identification and estimated concentration

Validation outliers and any necessary data qualifications are summarized in tables at the end of this memo. The table below indicates the included validation tables with findings.

List of Attached Tables

Table 1: Case Narrative Comments

Table 2: Laboratory Blank and Associated Suspect Sample Detections

Table 3: Matrix Spike Recoveries Outside of Acceptable Limits

Table 4: Field Duplicate Evaluation

CHAIN-OF-CUSTODY DISCREPANCIES

The laboratory did not note discrepancies between the chains-of-custody and the received sample containers.

SAMPLES WITH NON-PREFERRED RESULTS

All samples had only one final result reported for each analyte and method combination. All results are considered preferred.

CASE NARRATIVE COMMENTS

The laboratory observed additional issues encountered during sample preparation or analysis as noted in Table 1.

SAMPLES WITH EXCEEDED PRESERVATION REQUIREMENTS

The laboratory received the sample shipments in good condition, within the method-prescribed temperature preservation requirements of less than 6°C, with acceptable sample pH values, and, as applicable, all vials for volatile analysis were received with no documented headspace.

SAMPLES WITH EXCEEDED HOLDING TIMES

The samples were prepared and analyzed within the method-prescribed time period from the date of collection, with appropriate considerations for sample preservation requirements.

LABORATORY BLANK AND ASSOCIATED SUSPECT SAMPLE DETECTIONS

The laboratory blank sample results were non-detected for each of the target analytes, with the exceptions and any necessary qualifications noted in Table 2. The following criteria were taken into consideration when assessing blank contamination and applying any necessary qualifications:

- Non-detected results or results greater than five times the blank concentration (ten times for inorganics or common laboratory contaminants) were considered not affected by contamination and were not qualified.
- If results were associated with more than one blank, the greater of the two blank concentrations was used for applying qualifications.
- Results within five times the blank concentration (ten times for inorganics or common laboratory contaminants) and less than the reporting limit, as adjusted for dilution, were qualified as non-detect (U) at the sample reporting limit.
- Results within five times the blank concentration (ten times for inorganics or common laboratory contaminants), greater than the reporting limit, but less

than the blank concentration, as adjusted for dilution, were qualified as non-detect (U) at the sample concentration.

- Results within five times the blank concentration (ten times for inorganics or common laboratory contaminants), greater than the reporting limit, and greater than the blank concentration, as adjusted for dilution, were qualified as estimates with a high bias (J+).

FIELD BLANK AND ASSOCIATED SUSPECT SAMPLE DETECTIONS

The trip and rinse blank sample results were non-detected for each of the target analytes or were qualified as non-detected due to laboratory blank contamination. The blank results indicate that contaminants were not introduced to the samples during collection, shipment, handling, and storage.

LABORATORY CONTROL SPIKE RECOVERIES OUTSIDE OF ACCEPTABLE LIMITS

The laboratory control sample (LCS) recoveries and, if included, the laboratory control sample duplicate (LCSD) recoveries and relative percent differences (RPD) were within the laboratory's limits of acceptance. The LCS/LCSD recoveries and RPDs indicate acceptable laboratory accuracy and precision.

MATRIX SPIKE RECOVERIES OUTSIDE OF ACCEPTABLE LIMITS

The matrix spike (MS) recoveries and, if included, the matrix spike duplicate (MSD) recoveries and RPDs were within the laboratory's limits of acceptance for target analytes for spiked project samples, with the exceptions and any necessary qualifications noted in Table 3. MS/MSDs performed on non-project parent samples, if included, are not representative of the matrix for this project and were therefore not reviewed or presented. Results were not qualified if the paired spiked sample recovery was acceptable, if high recoveries or RPDs were associated with non-detected results, if the parent sample result was greater than four times that of the spike, if the spike was diluted out, or if the exception was not associated with reported results.

SURROGATE RECOVERY RESULTS OUTSIDE OF ACCEPTABLE LIMITS

The surrogate recoveries were within the laboratory limits of acceptance. The acceptable surrogate recoveries indicate minimal matrix interference in the samples.

FIELD DUPLICATE EVALUATION

One or more samples were submitted to the laboratory as field duplicates. RPDs or absolute differences were calculated as appropriate for detected results. When results were greater than or equal to five times the reporting limit, RPD control limits of 30 for

an aqueous matrix or 50 for a non-aqueous matrix were used. When results were less than five times the reporting limit, difference limits of $\pm$ two times the reporting limit for an aqueous matrix or $\pm$ four times the reporting limit for a non-aqueous matrix were used. Control limits were not applicable if both results were less than the reporting limits. If one result was greater than the reporting limit and the other was not detected, the reporting limit for the non-detect result was used when calculating differences. Additionally, if the reporting limits were not the same between the parent and field duplicate samples, professional judgment was used to determine the difference control limit or if the calculation was meaningful. The RPDs and/or absolute differences were within QAPP criteria or EPA Region 1 guidance, whichever is applicable, with any exceptions and necessary qualifications noted in Table 4.

CALIBRATION RANGE EXCEEDANCES

All results were reported within each instrument's calibration range.

PROFESSIONAL JUDGEMENT QUALIFIERS

Additional qualifiers using the validator's professional judgement were not necessary.

OVERALL ASSESSMENT

None of the data required rejection. All the data, including any 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
Case Narrative Comments
Third Quarter 2024 Groundwater
Arkema
Portland, Oregon

Lab Package	Sample ID	Method	Analyte	Reason	ERM Qualifier
580-143753-1	MWA-82-090924	8260D	2-Butanone	Batch 580-471506 CCV low bias	UJ
	PA-03-090924				
	PA-08-090924				
	PA-09-090924				
	PA-15I-090924				
	PA-17IR-090924				
	PA-18D-090924				
	PA-25D-090924				
	PA-26D-090924				
	PA-27D-090924				
	TB-090924				
580-143753-1	None for qualification, associated samples ND	8260D	Dichlorodifluoromethane	Batch 580-471506 CCV high bias	--
580-143800-1	PA-31-091124 PA-32i-091124	8260D	1,1-Dichloroethene	Batch 580-471925 CCV high bias	J+
	None for qualification, associated samples ND	8260D	Methyl tert-butyl ether		--
			2-Butanone		
			trans-1,2-Dichloroethene		
			Chlorobromomethane		
			Carbon tetrachloride		
			1,1-Dichloropropene		
			1,2-Dichloroethane		
		Dibromomethane			
	PA-31-091124 PA-32I-091124		Hexachlorobutadiene	Batch 580-471925 CCV low bias	UJ

Notes:

-- = not applicable; associated data not affected

CCV = continuing calibration verification

Table 1
Case Narrative Comments
Third Quarter 2024 Groundwater
Arkema
Portland, Oregon

Lab Package	Sample ID	Method	Analyte	Reason	ERM Qualifier
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J+ = detected results are estimated with a high bias

ND = not detected

UJ = non-detected, estimated report limit

Table 2
Laboratory Blank and Associated Suspect Sample Detections
Third Quarter 2024 Groundwater
Arkema
Portland, Oregon

Lab Package	Blank ID	Analyte	Reported Blank Conc.	Blank RL	Associated Sample	Assoc. Sample Result	Assoc. Sample RL	Units	ERM Qualifier
580-143800-1	MB 580-471925/7	Benzene	0.143	0.20	PA-31-091124	0.18	0.20	µg/L	0.20 U
					PA-32i-091124	0.20	0.20		0.20 U
		n-Butylbenzene	0.351	1.0	None for qualification, samples ND	--	--	µg/L	--

Notes:

-- = not applicable; associated data not affected

Conc. = concentration

MB = method blank

µg/L = micrograms per liter

ND = not detected

RL = reporting limit

U = non-detected

Table 3
Matrix Spike Recoveries Outside of Acceptable Limits
Third Quarter 2024 Groundwater
Arkema
Portland, Oregon

Lab Package	Spike Sample ID	Associated Sample	Analyte	Recovery (%)	Limit (%)	RPD	RPD Limit	Result	Units	ERM Qualifier
580-143753-1	MWA-81i-091024 MS/ MWA-81i-091024 MSD	None for qualification, parent sample ND	Isopropylbenzene	124/126	71-123	Pass	23	--	µg/L	--
		None for qualification, one recovery passes	Chloride	112/Pass	90-110	Pass	15	--	mg/L	--
580-143800-1	MWA-58d-091124 MS/ MWA-58d-091124 MSD	None for qualification, one recovery passes	Chloroform	Pass/77	78-127	Pass	14	--	µg/L	--
		None for qualification, parent sample ND	Isopropylbenzene	Pass/124	80-123	Pass	19	--	µg/L	--
		None for qualification, parent sample > 4x spike concentration	Chloride	-802/-851	90-100	Pass	15	--	mg/L	--

Notes:

4X = The unspiked sample result was greater than four times the spike concentration.

MS = matrix spike

MSD = matrix spike duplicate

µg/L = micrograms per liter

mg/L = milligrams per liter

ND = not detected

RPD = relative percent difference

Table 4
Field Duplicate Evaluation
Third Quarter 2024 Groundwater
Arkema
Portland, Oregon

Lab Package	Primary / Duplicate Sample ID	Analyte	Concentration		Report Limit		Units	AbD	RPD	Limit	ERM Qualifier
			Sample	Duplicate	Sample	Duplicate					
580-143753-1	PA-10i-091024/ Dup-01-091024	Vinyl chloride	ND ¹	0.50	0.10	0.10	µg/L	0.4	--	0.2	Detect J Non-detect UJ
		1,1-Dichloroethene	0.11	0.11	0.20	0.20	µg/L	--	--	NA	--
		cis-1,2-Dichloroethene	0.17	0.14	0.20	0.20	µg/L	--	--	NA	--
		1,2-Dichlorobenzene	0.14	0.17	0.30	0.30	µg/L	--	--	NA	--
		Chloride	30	31	1.5	1.5	mg/L	--	3.3	30	--
580-143800-1	MWA-56d-091124/ Dup-02-091124	Acetone	32	ND	150	150	µg/L	--	--	NA	--
		Chloroform	150	160	10	10	µg/L	--	6.5	30	--
		Perchlorate	14000	19000	800	2000	µg/L	--	30	30	J
		Chloride	10000	11000	1500	1500	mg/L	--	9.5	30	--

Notes:

-- = not applicable; associated data not affected

AbD = absolute Difference

J = estimated detected result

µg/L = micrograms per liter

mg/L = milligrams per liter

NA = not applicable

ND = not detected

ND¹ = the report limit was used for comparison purposes

RPD = relative percent difference



APPENDIX D PRIOR GROUNDWATER MONITORING PROGRAM DATA TABLES AND GRAPHS

Appendix D
Prior Groundwater Monitoring Plan Data Table
Arkema Quarter 3, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Cluster	Sample ID	Date	Chloride	Chlorobenzene	Perchlorate
					ug/L	ug/L	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-41	GCC6 & Proximal Wells	MWA-41-022624	02/26/2024	8,000	< 0.060 U	< 2.0 U
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-061024	06/10/2024	7,600	0.060 j	2.6 j
Shallow	MWA-41	GCC6 & Proximal Wells	MWA-41-091024	09/10/2024	18,000	< 0.060 U	< 0.91 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-63	GCC1 & Proximal Wells	MWA-63-022724	02/27/2024	4,500	< 4.4 U	< 2.0 U
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-061324	06/13/2024	6,600	< 0.44 U	< 2.0 U
Shallow	MWA-63	GCC1 & Proximal Wells	MWA-63-091024	09/10/2024	23,000	< 0.44 U	< 0.91 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
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	MWA-82	GCC6 & Proximal Wells	MWA-82-022524	02/25/2024	7,900	< 0.060 U	20
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-061024	06/10/2024	11,000	0.11 j	270
Shallow	MWA-82	GCC6 & Proximal Wells	MWA-82-090924	09/09/2024	11,000	< 0.060 U	220
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-03	GCC1 & Proximal Wells	PA-03-022624	02/26/2024	4,200	< 0.20 U	< 2.0 U
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-061224	06/12/2024	3,700	< 0.060 U	< 10 U
Shallow	PA-03	GCC1 & Proximal Wells	PA-03-090924	09/09/2024	3,800	< 0.060 U	< 9.1 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
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

Appendix D
Prior Groundwater Monitoring Plan Data Table
Arkema Quarter 3, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Cluster	Sample ID	Date	Chloride	Chlorobenzene	Perchlorate
					ug/L	ug/L	ug/L
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-04	GCC1 & Proximal Wells	PA-04-022724	02/27/2024	5,300	< 0.060 U	< 4.0 U
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-061224	06/12/2024	5,700	< 0.060 U	< 2.0 U
Shallow	PA-04	GCC1 & Proximal Wells	PA-04-091024	09/10/2024	4,900	< 0.060 U	< 4.5 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-08	GCC6 & Proximal Wells	PA-08-022624	02/26/2024	140,000	< 0.060 U	< 10 U
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-061024	06/10/2024	190,000	0.10 j	19 j
Shallow	PA-08	GCC6 & Proximal Wells	PA-08-090924	09/09/2024	280,000	< 0.060 U	< 9.1 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
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-09	GCC6 & Proximal Wells	PA-09-022624	02/26/2024	160,000	< 0.060 U	< 20 U
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-061024	06/10/2024	130,000	< 0.060 U	11 j
Shallow	PA-09	GCC6 & Proximal Wells	PA-09-090924	09/09/2024	15,000	< 0.060 U	84
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
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-022724	02/27/2024	3,500	< 0.060 U	< 2.0 U
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-061324	06/13/2024	3,800	< 0.060 U	< 10 U
Shallow	PA-31	GCC1 & Proximal Wells	PA-31-091124	09/11/2024	8,300	< 0.060 U	< 4.5 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
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

Appendix D
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Aquifer	Well ID	Cluster	Sample ID	Date	Chloride	Chlorobenzene	Perchlorate
					ug/L	ug/L	ug/L
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-811-061323	06/13/2023	27,000	< 0.060	< 2.0
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-811-082123	08/21/2023	19,000	< 0.060 U	< 2.0 U
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-811-121023	12/10/2023	39,000	< 0.20 U	< 2.0 U
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-811-022624	02/26/2024	23,000	< 0.060 U	< 2.0 U
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-811-061024	06/10/2024	26,000	0.085 j	< 2.0 U
Intermediate	MWA-81i	GCC6 & Proximal Wells	MWA-811-091024	09/10/2024	8,400	< 0.060 U	< 0.91 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-10i	GCC1 & Proximal Wells	PA-10i-022724	02/27/2024	55,000	0.53	< 10 U
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-061224	06/12/2024	44,000	0.71	< 10 U
Intermediate	PA-10i	GCC1 & Proximal Wells	PA-10i-091024	09/10/2024	30,000	< 0.060 U	< 9.1 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
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-15i	GCC6 & Proximal Wells	PA-15i-022624	02/26/2024	20,000	< 0.060 U	< 10 U
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15i-061224	06/12/2024	86,000 J-	< 0.060 U	< 10 U
Intermediate	PA-15i	GCC6 & Proximal Wells	PA-15i-090924	09/09/2024	59,000	< 0.060 U	< 9.1 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-16i	GCC6 & Proximal Wells	PA-16i-022724	02/27/2024	12,000	< 0.060 U	< 20 U
Intermediate	PA-16i	GCC6 & Proximal Wells	PA-16i-061024	06/10/2024	17,000	< 0.060 U	< 10 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
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-17iR	GCC1 & Proximal Wells	PA-17iR-022624	02/26/2024	32,000	< 0.060 U	< 2.0 U
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-061224	06/12/2024	35,000	0.16 j	< 10 U
Intermediate	PA-17iR	GCC1 & Proximal Wells	PA-17iR-090924	09/09/2024	43,000	< 0.060 U	< 9.1 U
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-103019	10/30/2019	161,000	< 0.44 U	< 48 U

Appendix D
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Portland, Oregon

Aquifer	Well ID	Cluster	Sample ID	Date	Chloride	Chlorobenzene	Perchlorate
					ug/L	ug/L	ug/L
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-32i	GCC1 & Proximal Wells	PA-32i-022824	02/28/2024	7,600,000	0.29	< 20 U
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-061324	06/13/2024	85,000	0.36	< 20 U
Intermediate	PA-32i	GCC1 & Proximal Wells	PA-32i-091124	09/11/2024	88,000	0.21	< 18 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
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-121023	12/10/2023	1,900	< 0.060 U	< 4.0 U
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-022524	02/25/2024	93,000	< 0.060 U	< 10 U
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-061124	06/11/2024	320,000	< 0.060 U	< 10 U
Intermediate	PA-44i	GCC6 & Proximal Wells	PA-44i-091024	09/10/2024	220,000	< 0.060 U	< 4.5 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-11i(d)	Well Distal from BW and GCCs	MWA-11i(D)-022824	02/28/2024	6,300,000	0.061 j	< 10 U
Deep	MWA-11i(d)	Well Distal from BW and GCCs	MWA-11i(D)-061324	06/13/2024	650,000	< 0.060 U	< 10 U
Deep	MWA-11i(d)	Well Distal from BW and GCCs	MWA-11i(D)-091124	09/11/2024	530,000	< 0.060 U	< 0.91 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-31i(d)	GCC5 & Proximal Wells	MWA-31i(D)-022824	02/28/2024	26,000,000	< 0.44 U	100,000
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(D)-061224	06/12/2024	21,000,000	< 4.4 U	100,000
Deep	MWA-31i(d)	GCC5 & Proximal Wells	MWA-31i(D)-091024	09/10/2024	16,000,000	< 0.44 U	87,000
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-102419	10/24/2019	20,100,000	< 0.44 U	3,300
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

Appendix D
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Aquifer	Well ID	Cluster	Sample ID	Date	Chloride	Chlorobenzene	Perchlorate
					ug/L	ug/L	ug/L
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-56d	GCC4 & Proximal Wells	MWA-56D-022824	02/28/2024	14,000,000	< 4.4 U	16,000
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-061224	06/12/2024	13,000,000	< 4.4 U	15,000
Deep	MWA-56d	GCC4 & Proximal Wells	MWA-56D-091124	09/11/2024	10,000,000	< 4.4 U	14,000 J
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	MWA-58d	GCC4 & Proximal Wells	MWA-58D-022824	02/28/2024	19,000,000	< 4.4 U	50,000
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-061224	06/12/2024	19,000,000	< 4.4 U	47,000
Deep	MWA-58d	GCC4 & Proximal Wells	MWA-58D-091124	09/11/2024	17,000,000	< 4.4 U	54,000
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
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-18d	GCC1 & Proximal Wells	PA-18D-022724	02/27/2024	98,000	< 0.44 U	< 20 U
Deep	PA-18d	GCC1 & Proximal Wells	PA-18D-061224	06/12/2024	85,000	< 0.44 U	< 10 U
Deep	PA-18d	GCC1 & Proximal Wells	PA-18D-090924	09/09/2024	67,000	< 0.44 U	< 9.1 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-19d	GCC2	PA-19D-022824	02/28/2024	330,000	5,700	< 10 U
Deep	PA-19d	GCC2	PA-19D-061324	06/13/2024	290,000	12,000	< 20 U
Deep	PA-19d	GCC2	PA-19D-091124	09/11/2024	270,000	6,300	< 4.5 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
Deep	PA-20d	GCC3	PA-20D-022824	02/28/2024	820,000	14	< 10 U
Deep	PA-20d	GCC3	PA-20D-061324	06/13/2024	680,000	4.5	< 10 U
Deep	PA-20d	GCC3	PA-20D-091124	09/11/2024	620,000	2.7	74
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

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Aquifer	Well ID	Cluster	Sample ID	Date	Chloride	Chlorobenzene	Perchlorate
					ug/L	ug/L	ug/L
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-21d	GCC3	PA-21D-022824	02/28/2024	300,000	27,000	< 10 U
Deep	PA-21d	GCC3	PA-21D-061324	06/13/2024	300,000	41,000	< 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-22d	GCC4 & Proximal Wells	PA-22d-022724	02/27/2024	5,300,000	< 0.44 U	14,000
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-061224	06/12/2024	5,100,000	< 0.44 U	14,000
Deep	PA-22d	GCC4 & Proximal Wells	PA-22d-091124	09/11/2024	4,300,000	< 0.44 U	15,000
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
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-23d	GCC5 & Proximal Wells	PA-23d-022724	02/27/2024	9,700,000	< 0.44 U	< 100 U
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-061124	06/11/2024	31,000,000	< 0.44 U	< 400 U
Deep	PA-23d	GCC5 & Proximal Wells	PA-23d-091024	09/10/2024	33,000,000	< 0.44 U	< 18 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-24d	GCC5 & Proximal Wells	PA-24d-022724	02/27/2024	30,000,000	< 0.44 U	< 400 U
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-061224	06/12/2024	30,000,000	< 0.44 U	< 400 U
Deep	PA-24d	GCC5 & Proximal Wells	PA-24d-091024	09/10/2024	30,000,000	< 0.44 U	< 18 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
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

Appendix D
Prior Groundwater Monitoring Plan Data Table
Arkema Quarter 3, 2024, Groundwater Monitoring Report
Arkema Inc. Facility
Portland, Oregon

Aquifer	Well ID	Cluster	Sample ID	Date	Chloride	Chlorobenzene	Perchlorate
					ug/L	ug/L	ug/L
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-25d	GCC6 & Proximal Wells	PA-25D-022724	02/27/2024	13,000	< 0.060 U	< 2.0 U
Deep	PA-25d	GCC6 & Proximal Wells	PA-25D-061124	06/11/2024	30,000	< 0.060 U	< 2.0 U
Deep	PA-25d	GCC6 & Proximal Wells	PA-25D-090924	09/09/2024	21,000	< 0.060 U	< 0.91 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	< 0.95 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-26d	GCC6 & Proximal Wells	PA-26D-022624	02/26/2024	64,000	< 0.060 U	< 2.0 U
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-061024	06/10/2024	80,000	< 0.060 U	< 2.0 U
Deep	PA-26d	GCC6 & Proximal Wells	PA-26D-090924	09/09/2024	60,000	< 0.060 U	< 0.91 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
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-27d	GCC1 & Proximal Wells	PA-27D-022724	02/27/2024	460,000	< 0.44 U	< 20 U
Deep	PA-27d	GCC1 & Proximal Wells	PA-27D-061224	06/12/2024	540,000	< 0.44 U	< 10 U
Deep	PA-27d	GCC1 & Proximal Wells	PA-27D-090924	09/09/2024	720,000	< 0.44 U	< 9.1 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
Deep	PA-30d	GCC2	PA-30D-022824	02/28/2024	370,000	18,000	< 20 U
Deep	PA-30d	GCC2	PA-30D-061424	06/14/2024	320,000	13,000	< 20 U
Deep	PA-30d	GCC2	PA-30D-091124	09/11/2024	270,000	8,200	< 18 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.

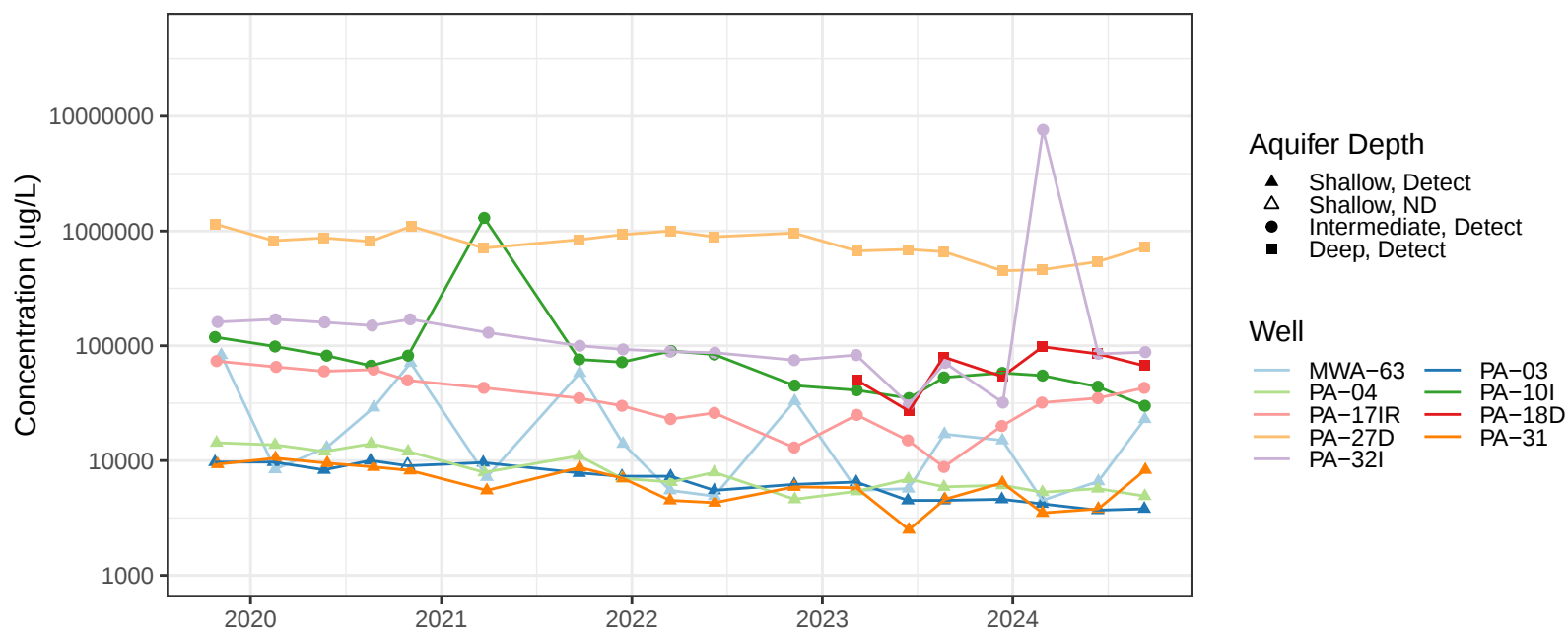
J- = The concentration of the sample is considered to be biased low, as the associated QC results are outside the lower control limits.

U = Compound not detected based on quality assurance review.

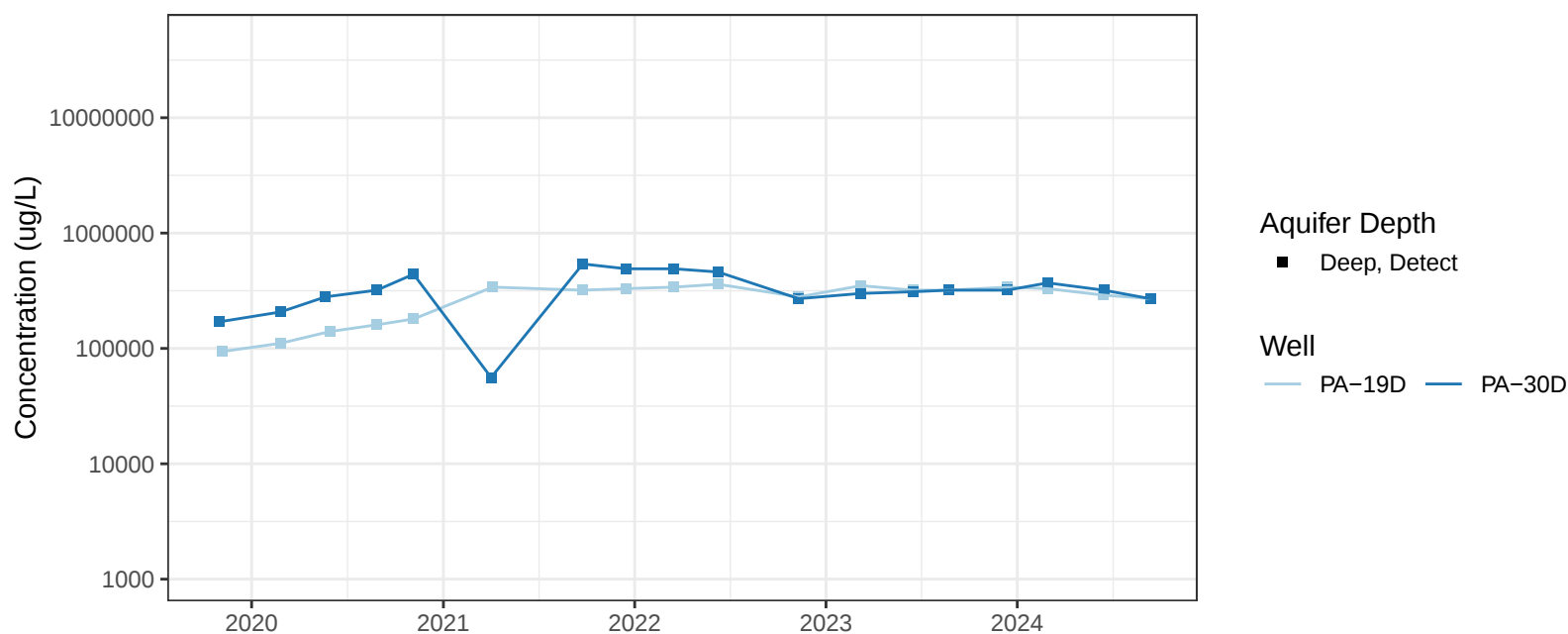
UJ = Analyte was analyzed for, but not detected. The detection limit is a quantitative estimate.

R = Rejected. Quality control indicates that the data are unusable (compound may or not be present).

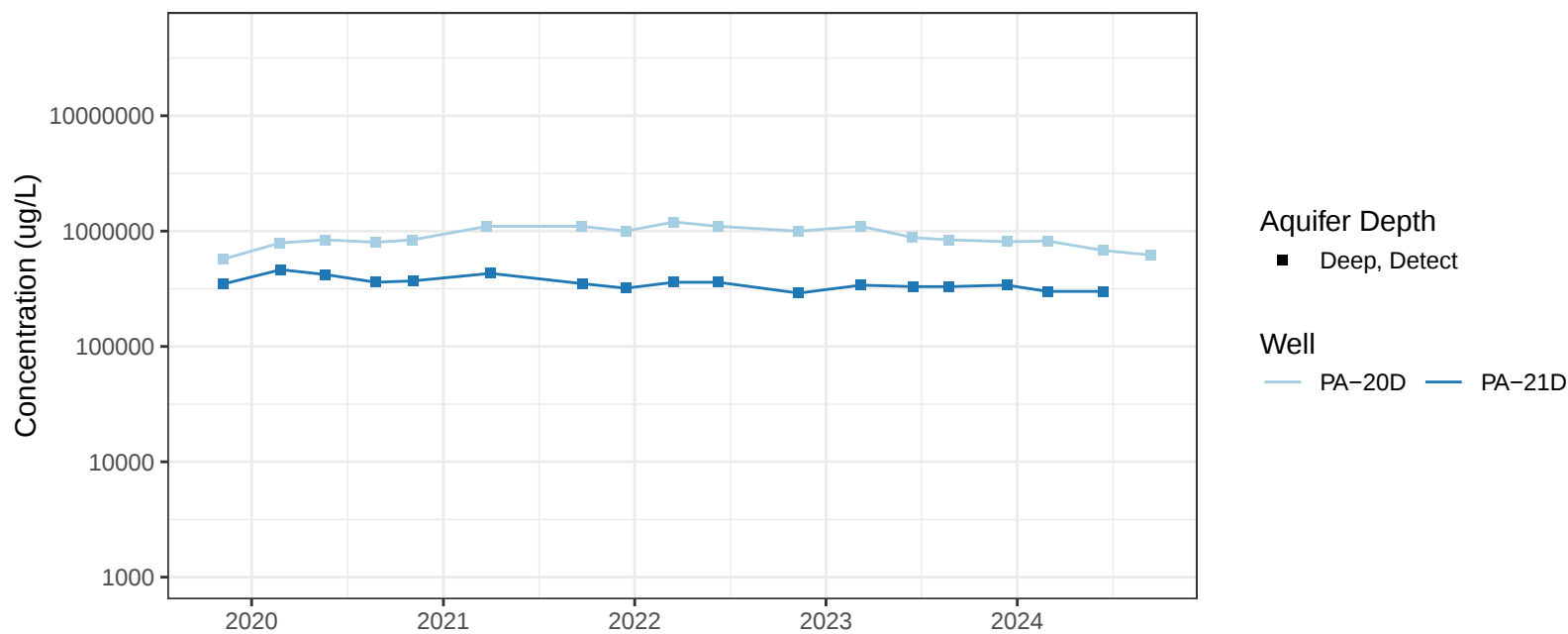
Chloride in GCC1 & Proximal Wells



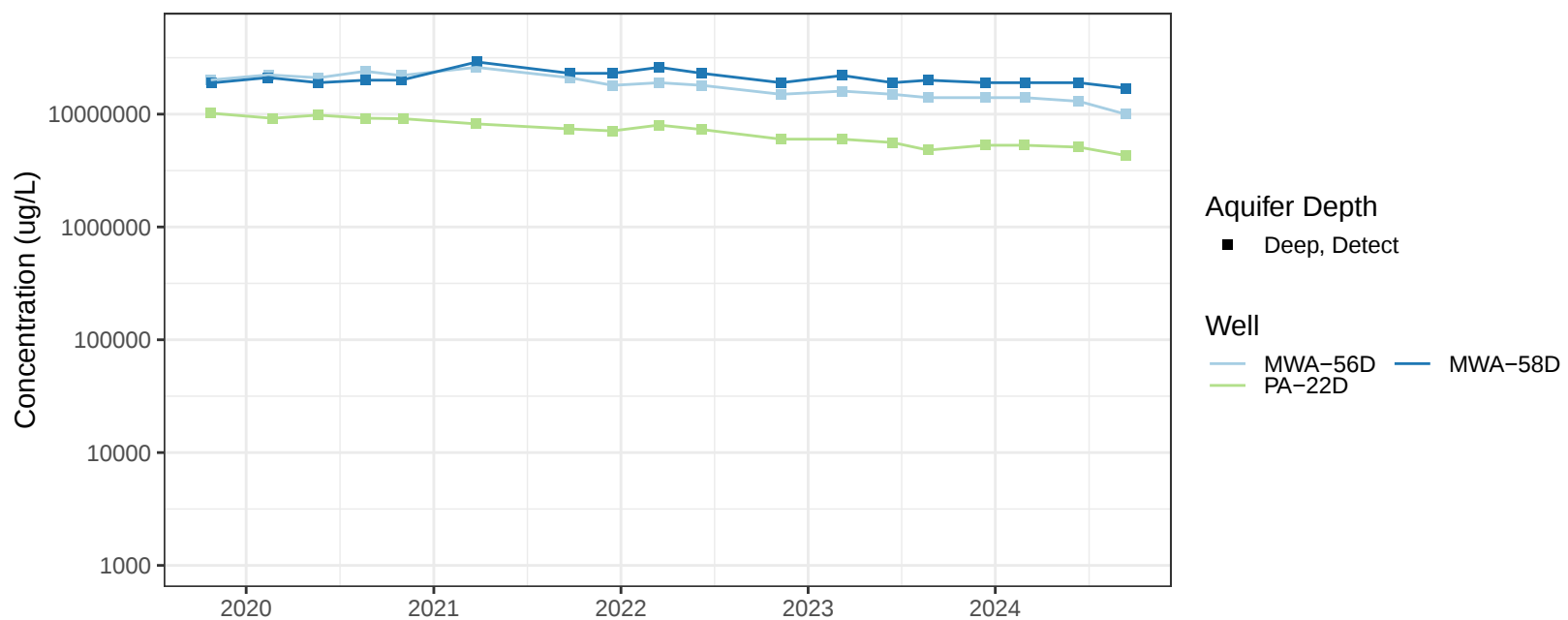
Chloride in GCC2



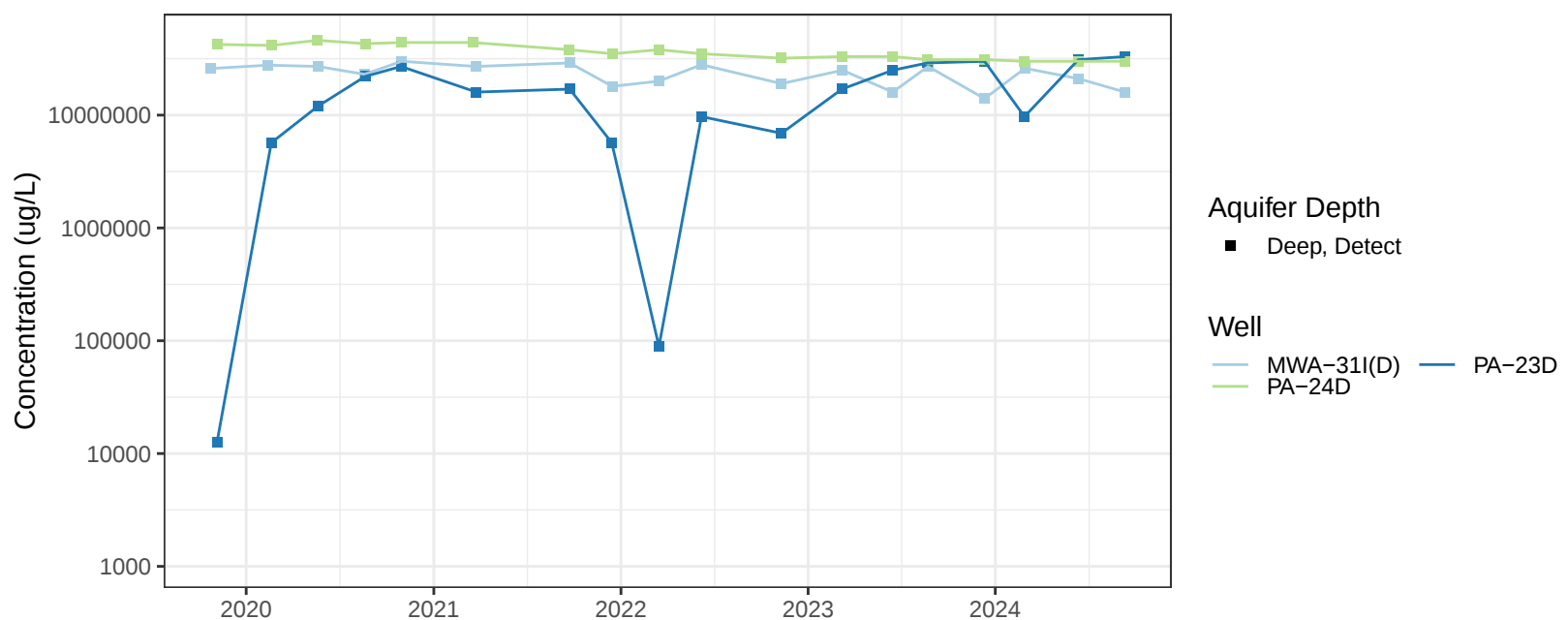
Chloride in GCC3



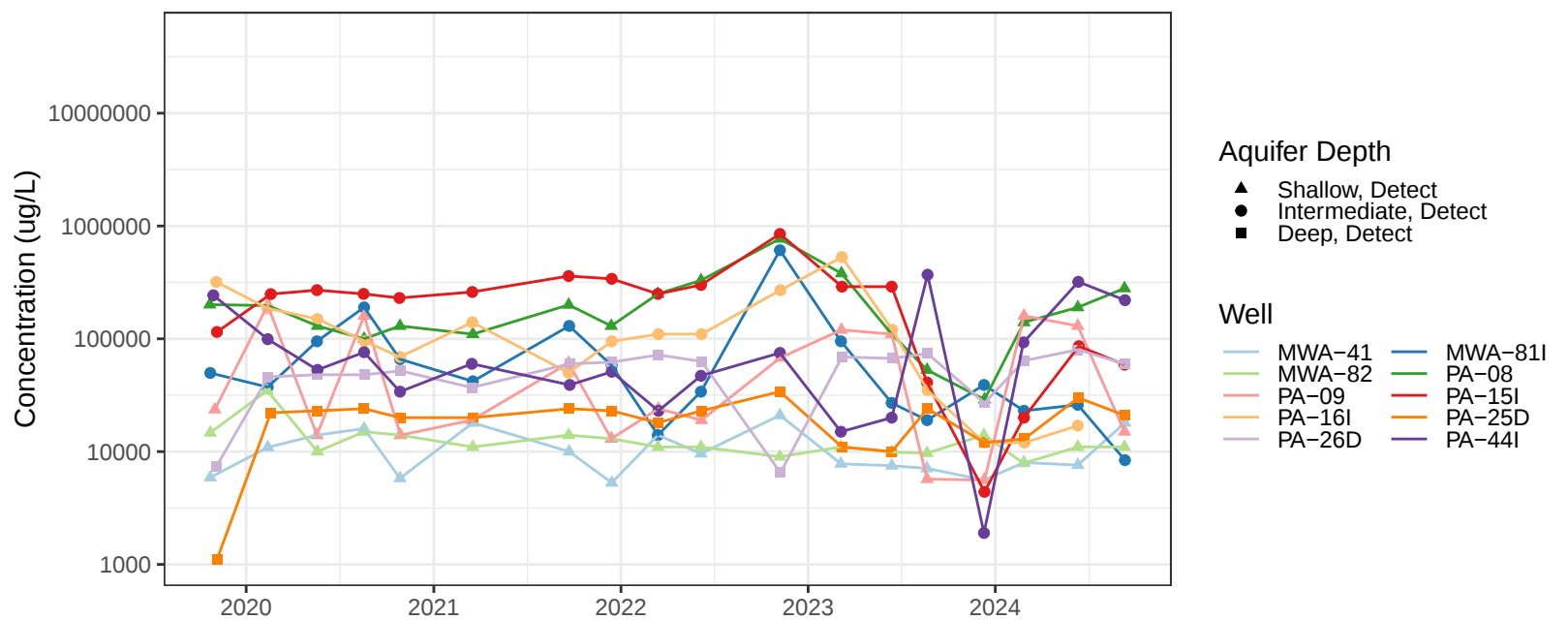
Chloride in GCC4 & Proximal Wells



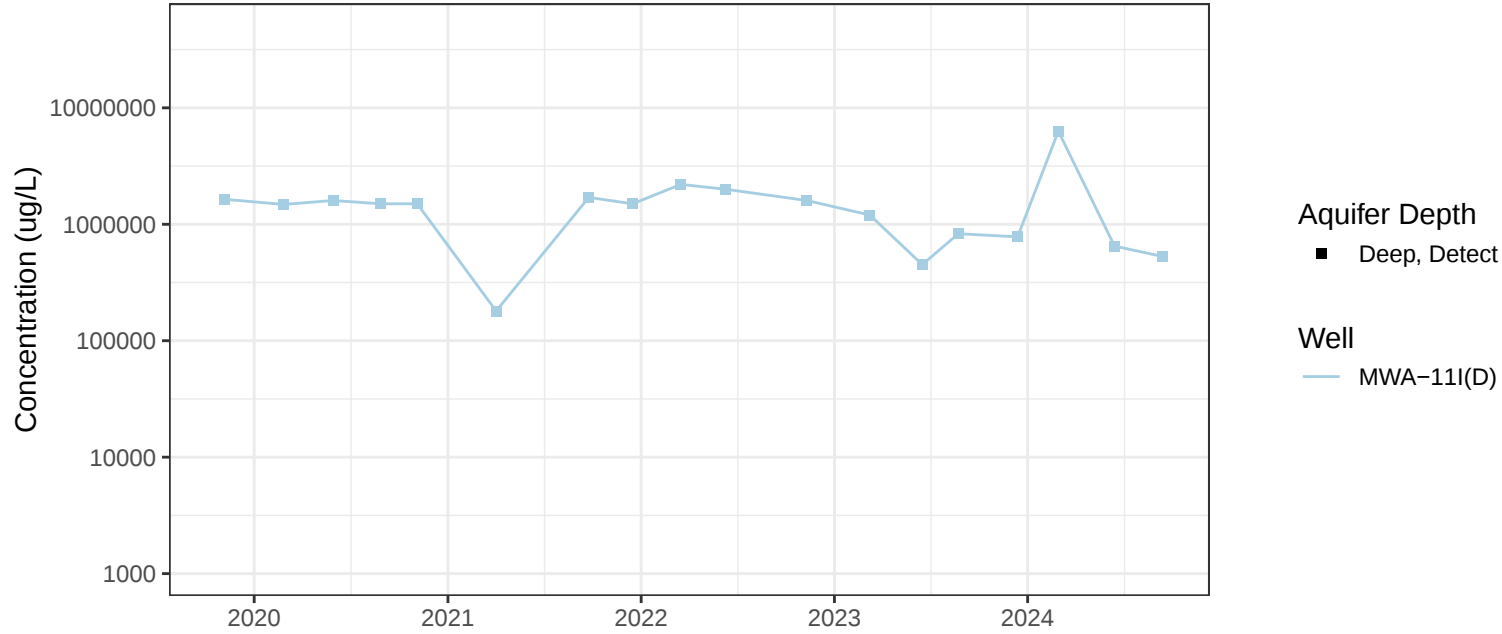
Chloride in GCC5 & Proximal Wells



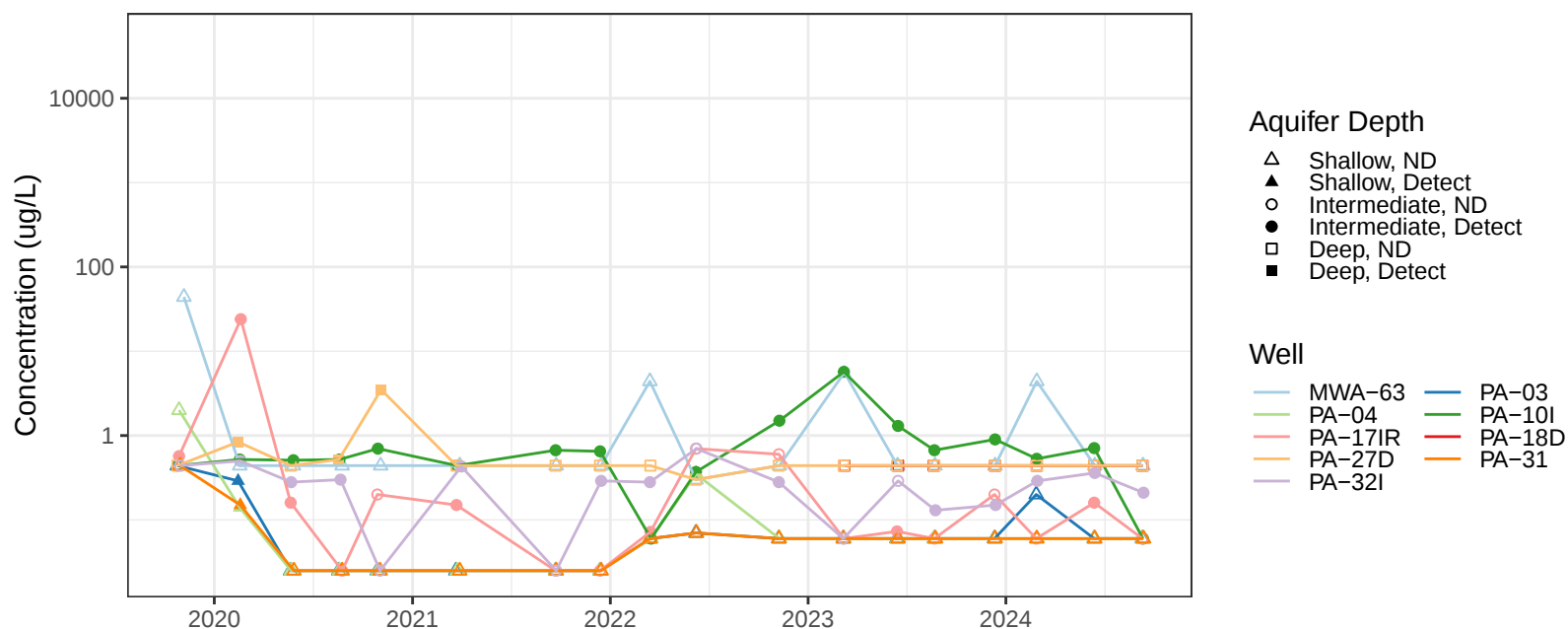
Chloride in GCC6 & Proximal Wells



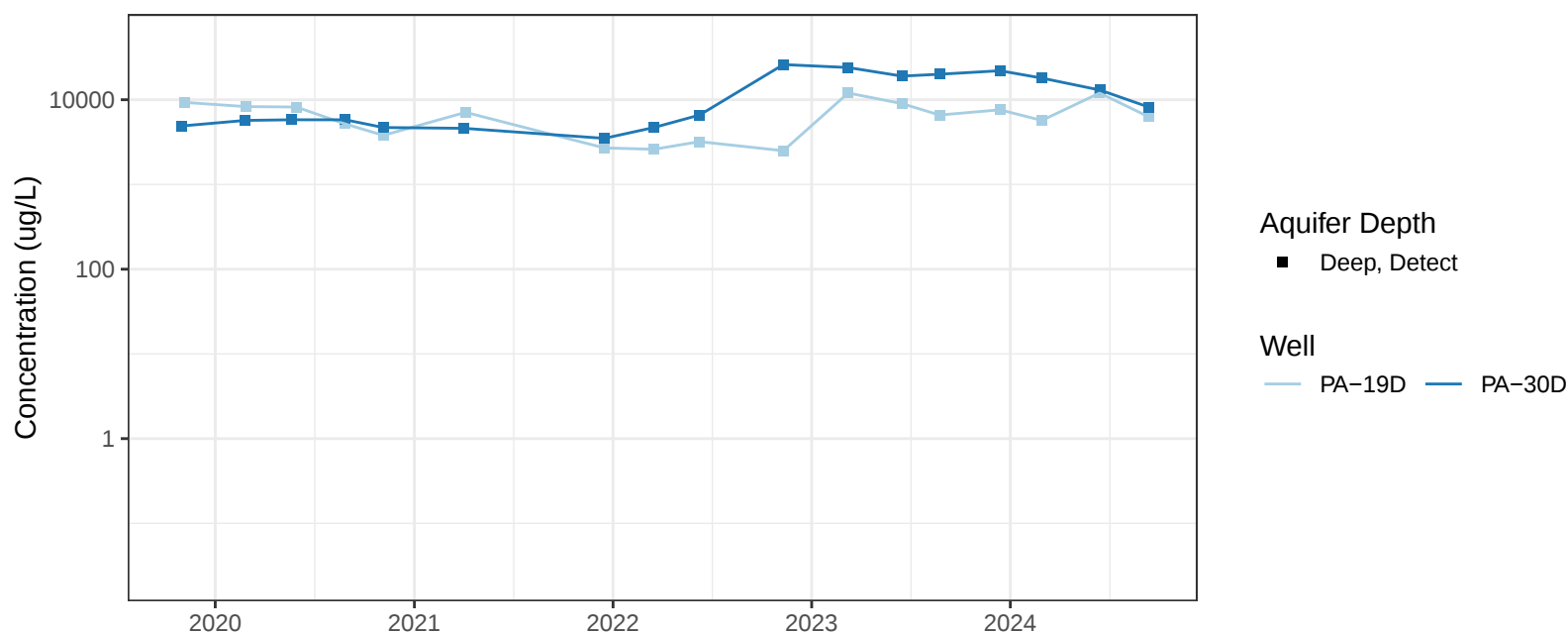
Chloride in Well Distal from BW and GCCs



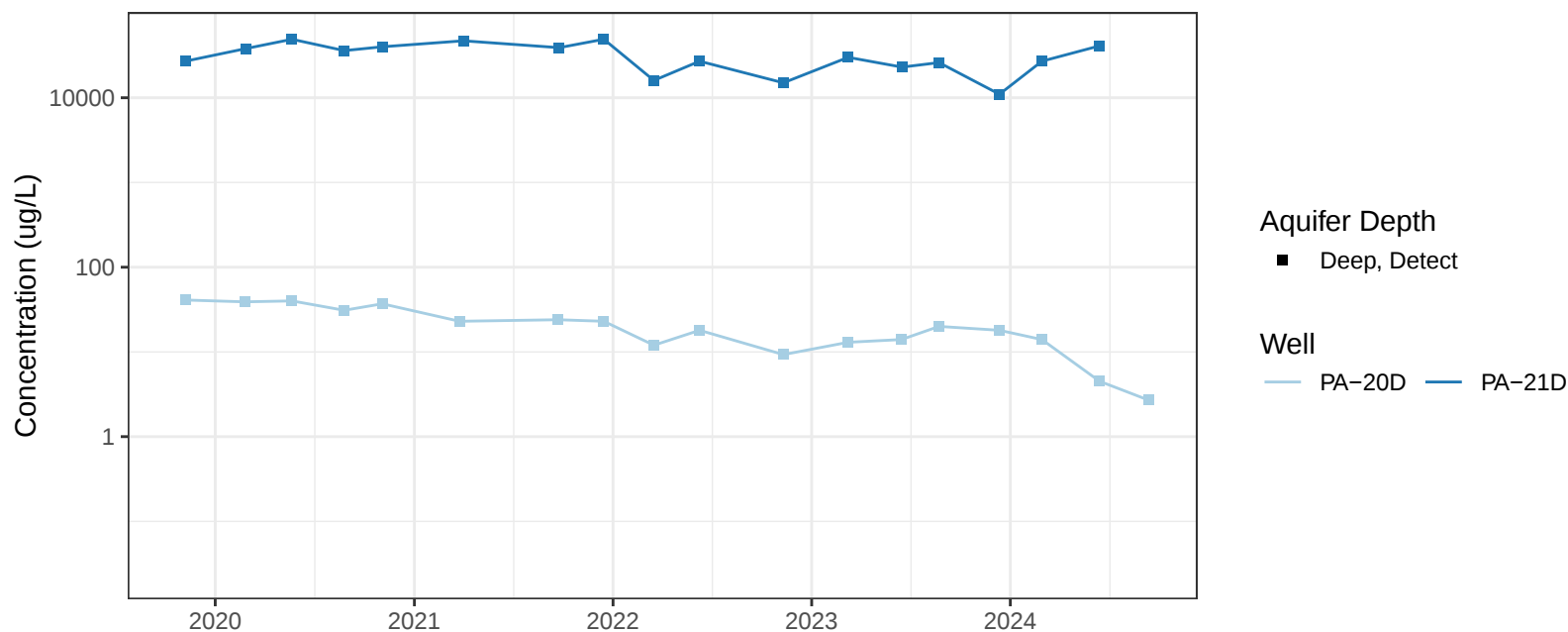
Chlorobenzene in GCC1 & Proximal Wells



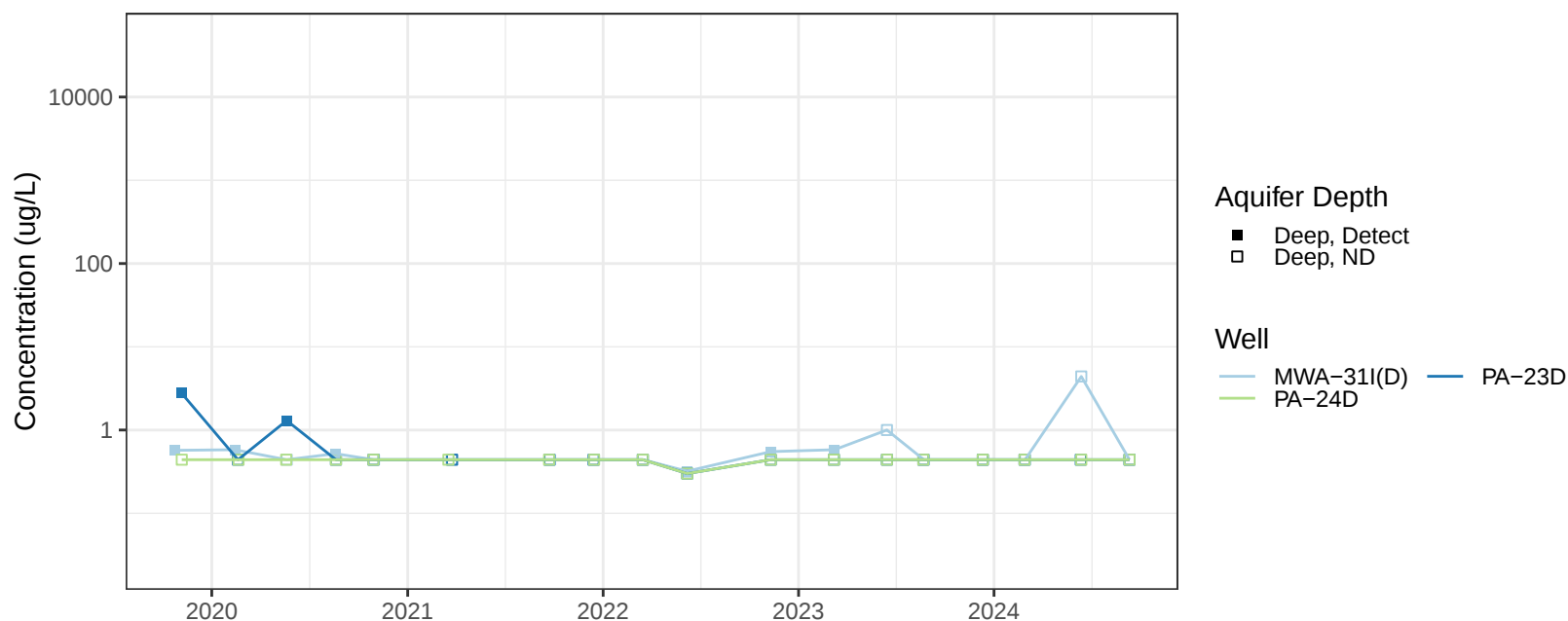
Chlorobenzene in GCC2



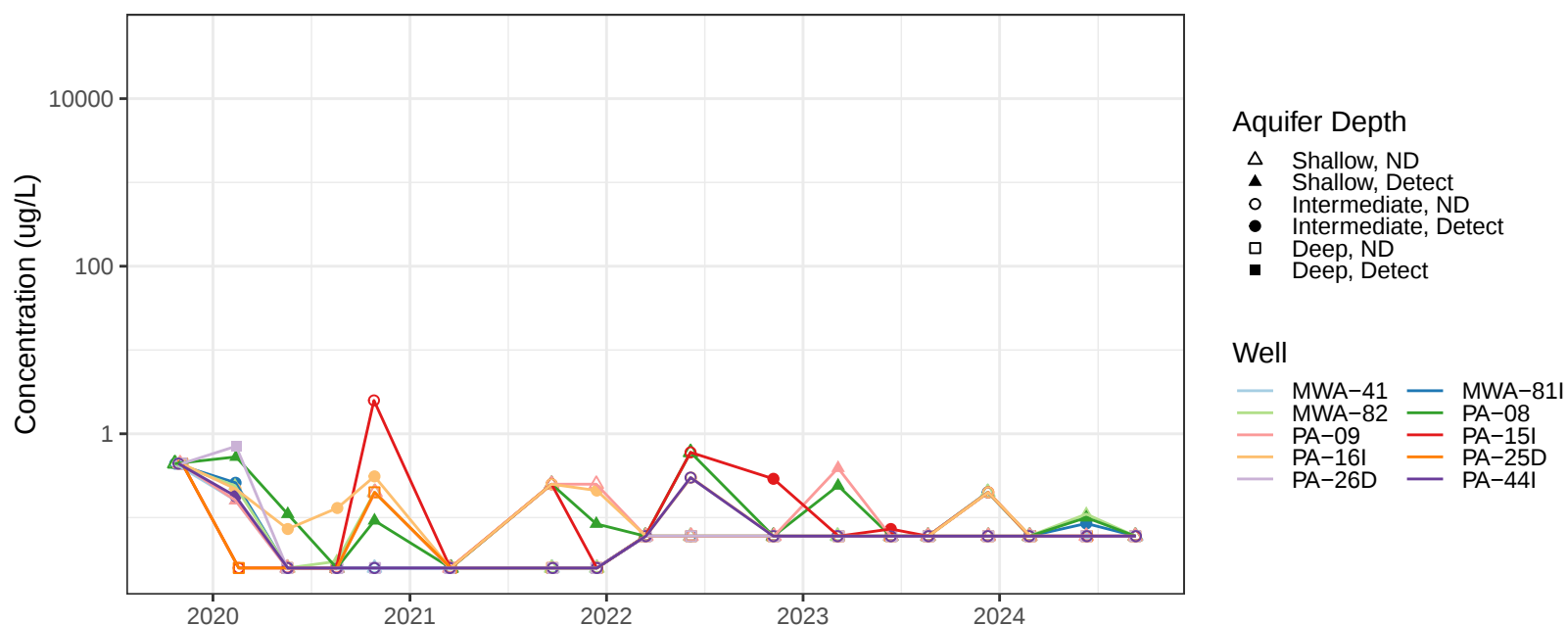
Chlorobenzene in GCC3



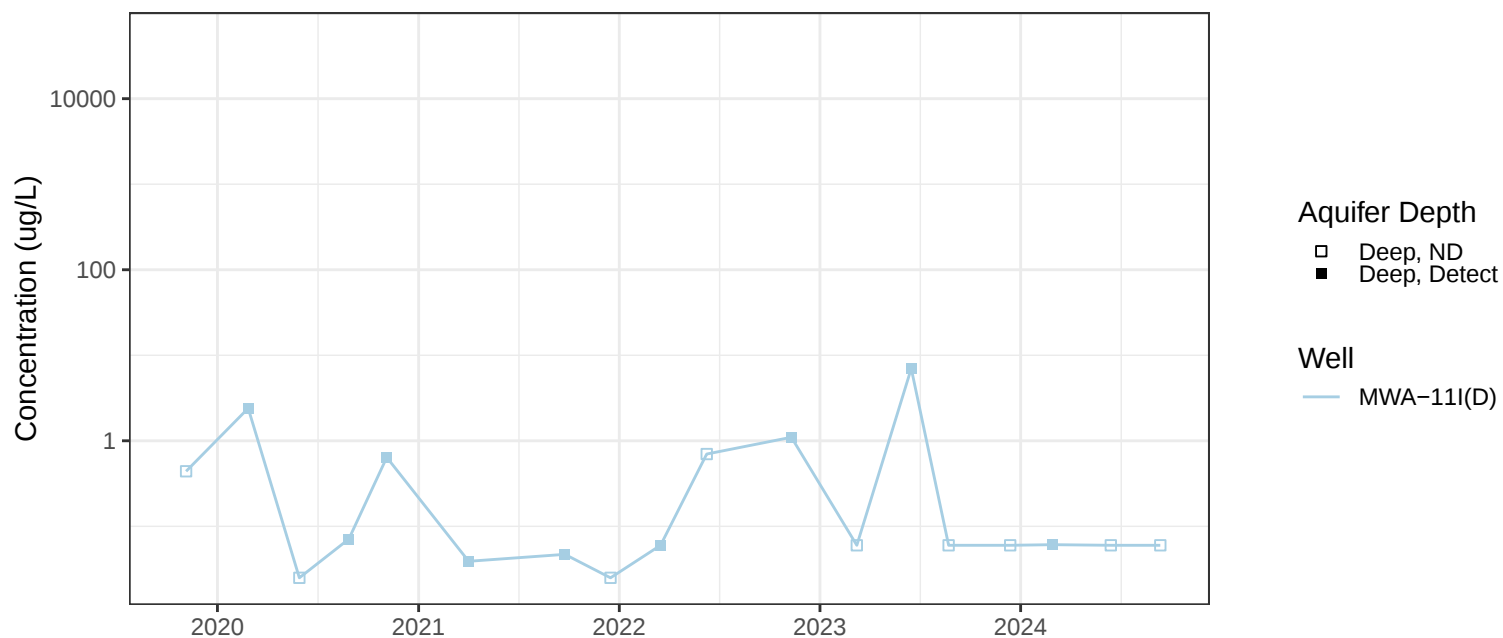
Chlorobenzene in GCC5 & Proximal Wells



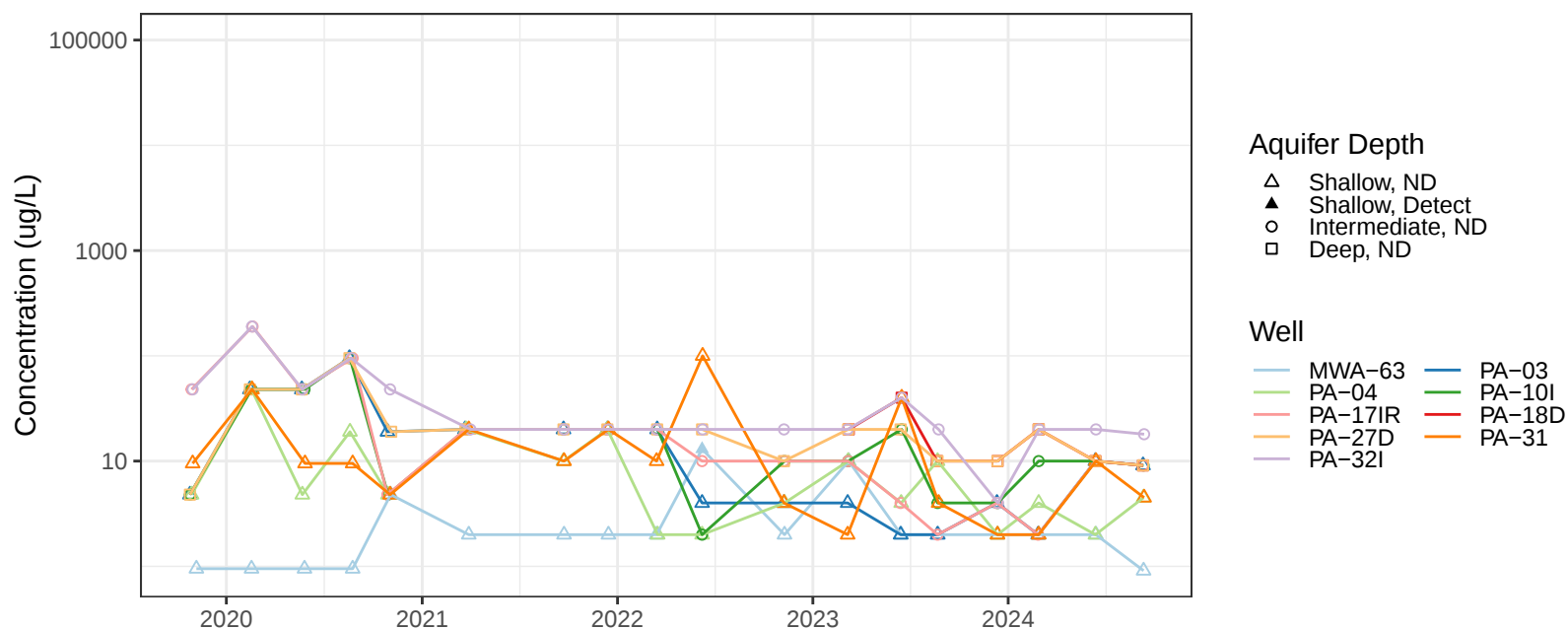
Chlorobenzene in GCC6 & Proximal Wells



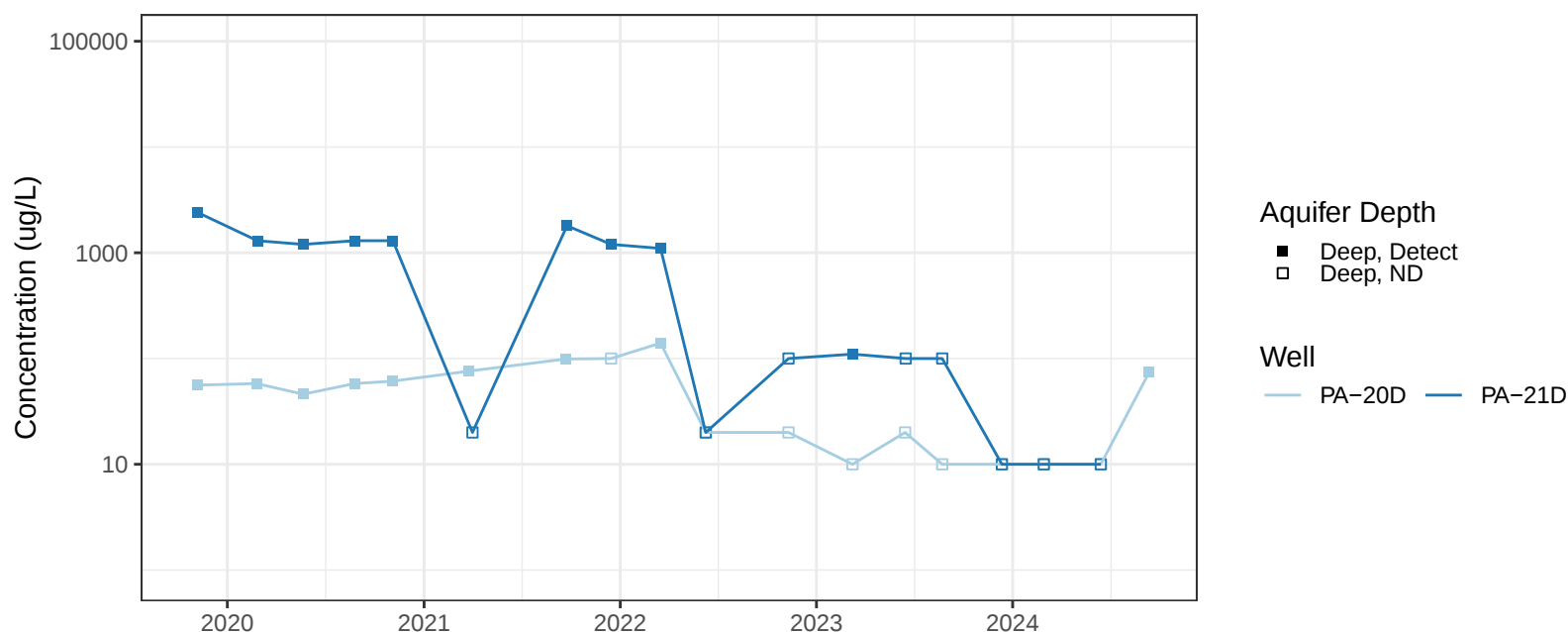
Chlorobenzene in Well Distal from BW and GCCs



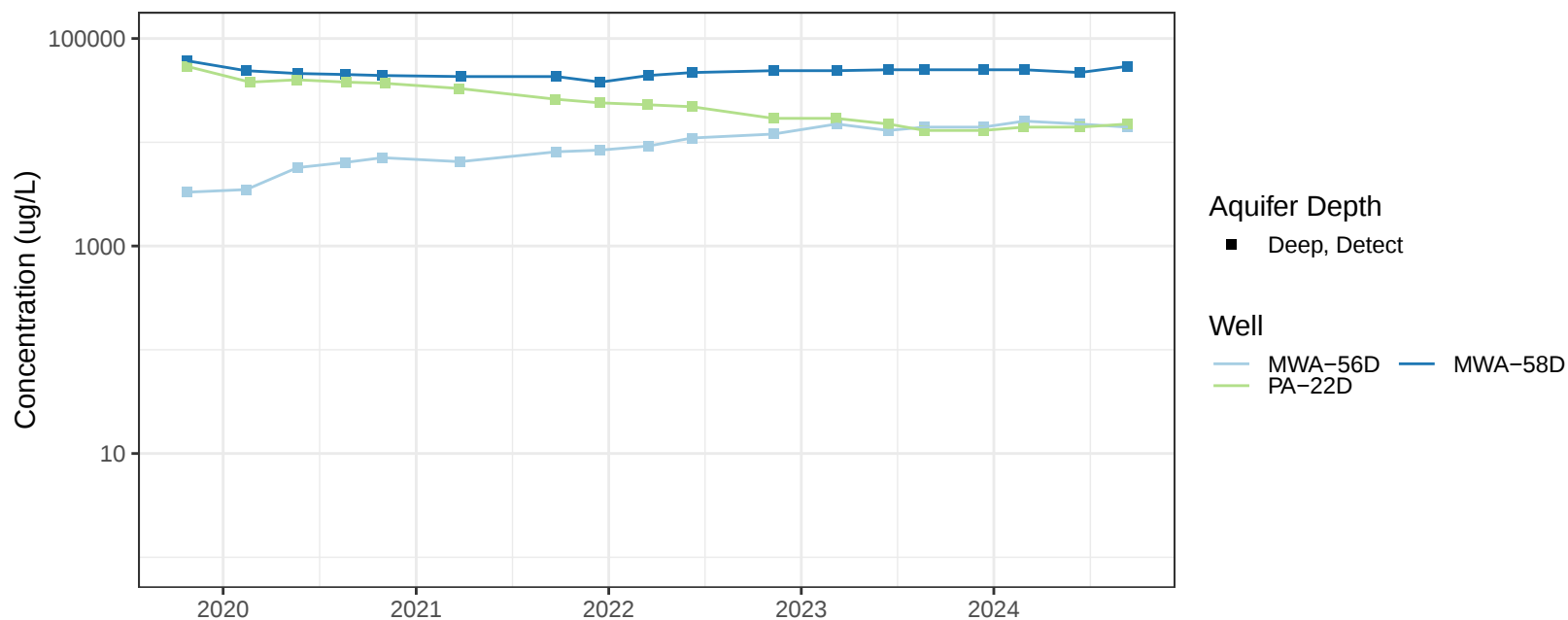
Perchlorate in GCC1 & Proximal Wells



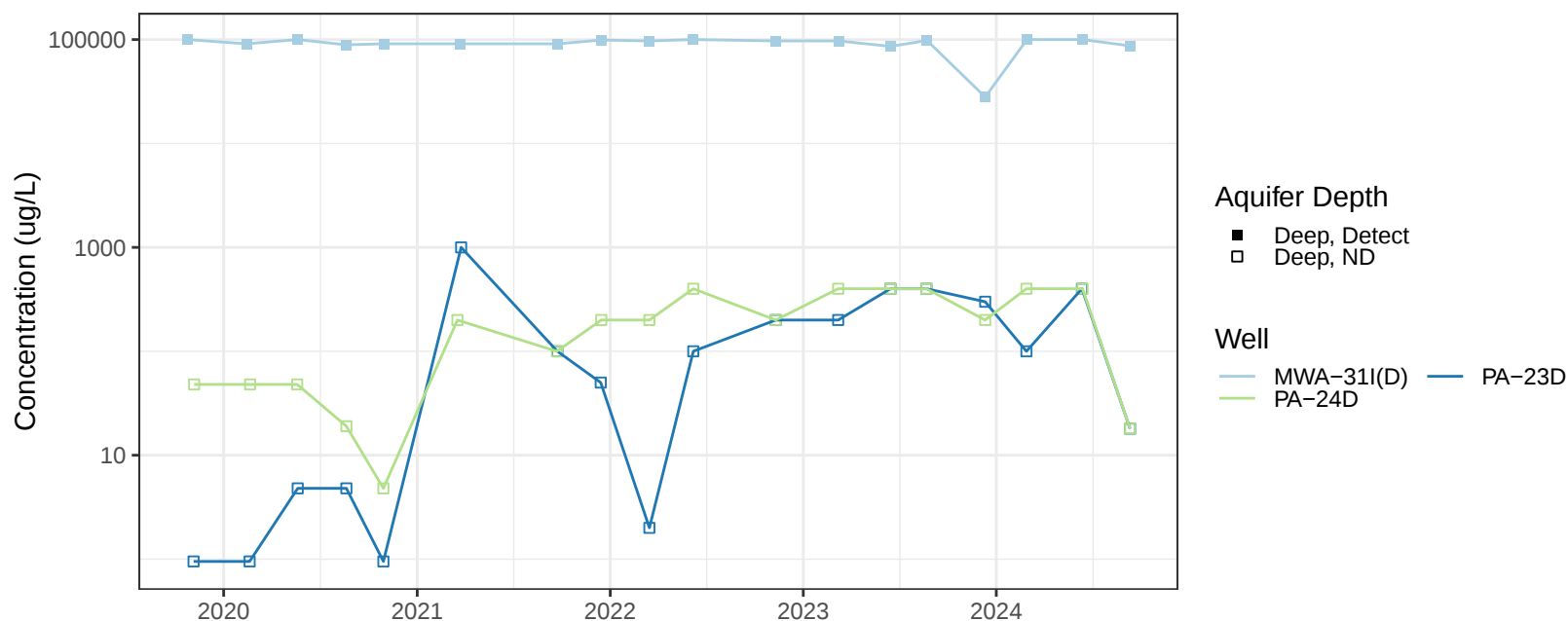
Perchlorate in GCC3



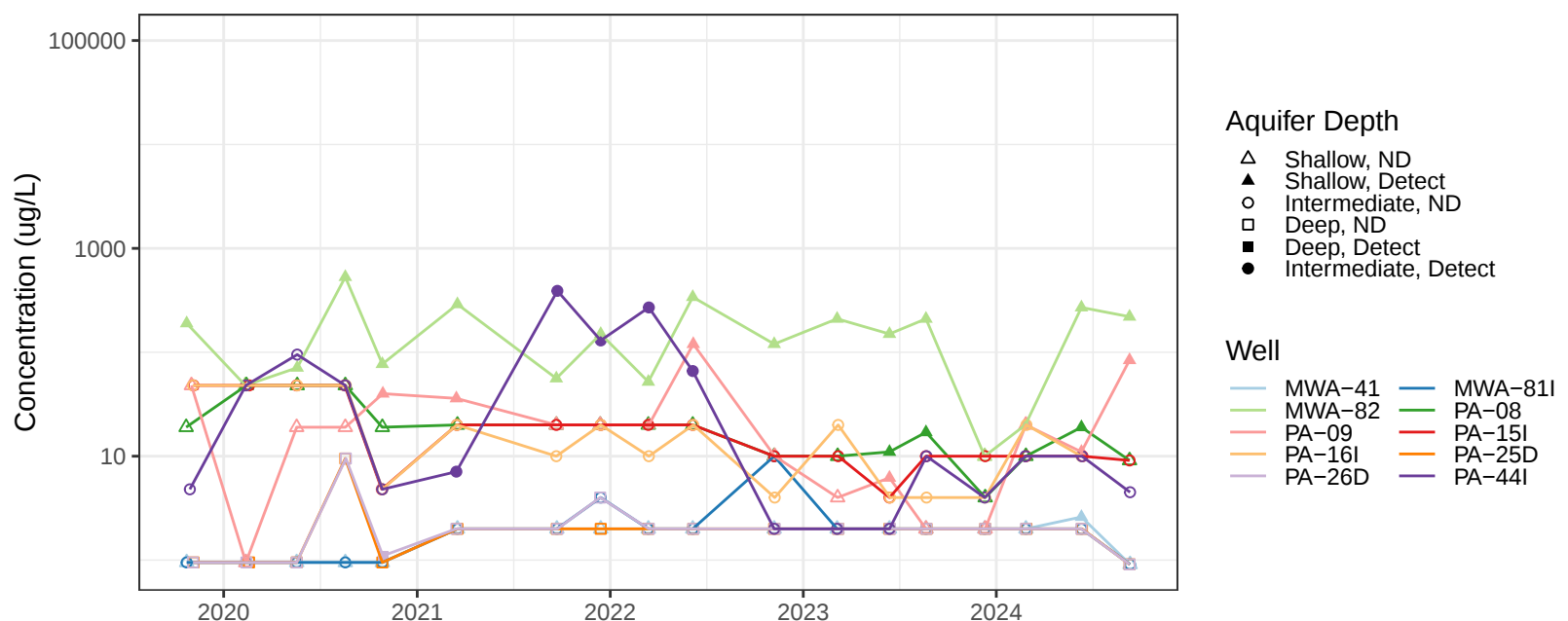
Perchlorate in GCC4 & Proximal Wells



Perchlorate in GCC5 & Proximal Wells



Perchlorate in GCC6 & Proximal Wells





APPENDIX E HISTORICAL DATA TABLE

Appendix E
Historical Data Table
Arkema Quarter 3, 2024, 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

Appendix E
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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	

Appendix E
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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	

Appendix E
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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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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
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

Qualifiers:
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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